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Service Manual

ORDER NO.
RRV3032

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-AX5Ai-G

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	The voltage can be converted by the following method.
VSX-AX5Ai-G	DLXJ	AC110V/120-127V/220V/230-240V	With the voltage selector
VSX-AX5Ai-G	SFXJ	AC110V/120-127V/220V/230-240V	With the voltage selector

● This service manual should be used together with the following manual(s):

Model	Order No.	Remarks
VSX-AX5Ai-S/HYXJ	RRV3018	

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
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T – ZZV SEPT. 2004 Printed in Japan

1. CONTRAST OF MISCELLANEOUS PARTS

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *Reference Nos. indicate the pages and Nos. in the service manual for the base model.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10¹ → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 × 10³ → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10¹ → 5621 ..... RN1/4PC 5 6 2 1 F

■ CONTRAST TABLE

VSX-AX5Ai-G/DLXJ, /SFXJ and VSX-AX5Ai-S/HYXJ are constructed the same except for the following :

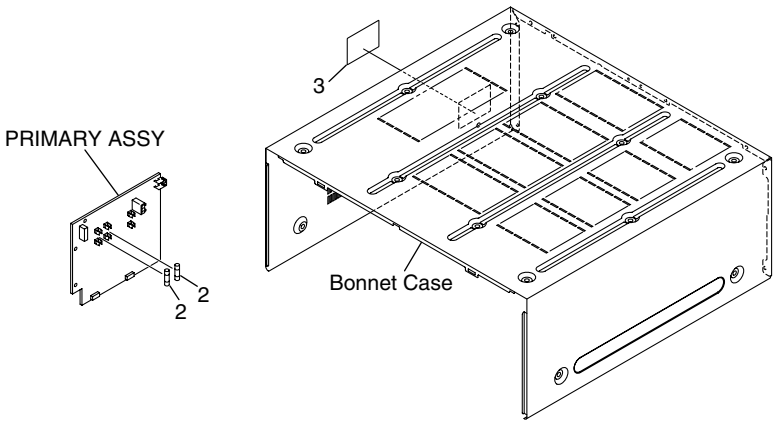
Ref. No.	Mark	Symbol and Description	Part No.			Remarks
			VSX-AX5Ai-S HYXJ	VSX-AX5Ai-G DLXJ	VSX-AX5Ai-G SFXJ	
		PCB ASSEMBLIES				
	NSP	1..MAIN ASSY	AWK7836	AWK7839	AWK7838	
P15- 2		2..MAIN CONTROL ASSY	AWX8435	AWX8438	AWX8437	
	NSP	1..VIDEO CONVERT ASSY	AWK7842	AWK7842	AWK7841	
P15- 4		2..VIDEO CONVERT ASSY	AWX8451	AWX8451	AWX8450	
	NSP	1..REGULATOR ASSY	AWK7846	AWK7848	AWK7848	
P13- 5		2..PRIMARY ASSY	AWX8461	AWX8463	AWX8463	
P13- 8		2..TRANS 1 ASSY	AWX8464	Not used	Not used	
		2..VOL-SEL ASSY	Not used	AWX8471	AWX8471	No.1
	NSP	J21 BOARD IN JUMPER WIRED	Not used	DB120NB2	DB120NB2	
	NSP	J22 BOARD IN JUMPER WIRED	Not used	DB920NB2	DB920NB2	
	NSP	J23 BOARD IN JUMPER WIRED	Not used	DB020NB2	DB020NB2	
		Y14 AWG18 BOARD IN	ADX7419	Not used	Not used	
		Y15 AWG18 BOARD IN	ADX7418	Not used	Not used	
P15-12		FM/AM TUNER UNIT	AXX7170	AXX7173	AXX7173	
		PACKING SECTION				
	⚠	Power Cord	Not used	Not used	ADG7082	Accessories
		J Shape Plug	Not used	AKX7008	AKX7008	Accessories
	⚠	AC Plug Adapter	Not used	AKX7011	AKX7011	Accessories
P9- 6		Remote Control Unit	AXD7364	AXD7326	AXD7326	
P9- 7		Battery Cover	AZN7940	AZN7896	AZN7896	
P9-10		Operating Instructions (French)	ARC7541	Not used	Not used	
P9-11		Operating Instructions (German)	ARC7542	Not used	Not used	
P9-12		Operating Instructions (Italian)	ARC7543	Not used	Not used	
P9-14		Operating Instructions (Dutch)	ARC7545	Not used	Not used	
		Operating Instructions (Chinese)	Not used	ARC7546	ARC7546	
		Sub Instructions (English/Spanish/Chinese)	Not used	ARH7071	ARH7071	
P9-16	NSP	Warranty Card	ARY7065	Not used	Not used	
		Caution Card SD SB	Not used	ARM7063	ARM7063	
		Caution Card SB	Not used	Not used	ARM7064	
		Caution Card PAL	Not used	ARM7081	Not used	
		Caution Card NTSC	Not used	Not used	ARM7082	
		Caution Card 220V	Not used	ARR7019	ARR7019	

Ref. No.	Mark	Symbol and Description	Part No.			Remarks
			VSX-AX5Ai-S HYXJ	VSX-AX5Ai-G DLXJ	VSX-AX5Ai-G SFXJ	
		PACKING SECTION (Continued)				
P9-21		Packing Case	AHD8273	AHD8275	AHD8275	
		EXTERIOR SECTION				
P11- 1		Bonnet Case	AZN7993	AZN7994	AZN7994	
P11-13		Bonnet Sheet	AEB7329	Not used	Not used	
		CHASSIS SECTION				
P13-14	⚠	Power Transformer (AC220-230V)	ATS7381	Not used	Not used	
P13-14	⚠	Power Transformer (AC110V/120-127V/220-230V/240V)	Not used	ATS7382	ATS7382	
P13-16	⚠	FU1 Fuse (T4A)	REK-106	Not used	Not used	
P13-16	⚠	FU1 Fuse (T10A)	Not used	DEK1045	DEK1045	
	⚠	FU2, FU3 Fuse (T5A)	Not used	REK-107	REK-107	No.2
P13-38		UL Tube	ADN7007	Not used	Not used	
P13-38		Glass Tube	Not used	ADN7009	ADN7009	
P13-53	NSP	Fuse Card	AAX7099	AAX7970	AAX7970	
		Label (TAIWAN)	Not used	Not used	ARW7196	No.3
	NSP	SISIR Label	Not used	AAX8038	Not used	
	NSP	RPCS Lable	Not used	Not used	AAX7966	
		REAR PANEL SECTION				
P15-23		Rear Panel	ANC8280	ANC8282	ANC8287	
	⚠	Voltage Selector	Not used	AKX-507	AKX-507	No.4
		FRONT PANEL SECTION				
P19-15		Door Stay	AAH7097	AAH7096	AAH7096	
P19-16		Door Hinge L	AMR7424	AMR7422	AMR7422	
P19-17		Door Hinge R	AMR7425	AMR7423	AMR7423	
P19-20		Door	ANB7280	ANB7279	ANB7279	
P19-20		Rotary Knob L	AAA7017	AAA7016	AAA7016	
P19-21		Window	AAK8234	AAK8233	AAK8233	
P19-22		D. Sheet	AAK8239	AAK8241	AAK8241	
P19-23		Cushion Circle	AED7087	AED7086	AED7086	
P19-25		Panel Base	AMB7884	AMB7885	AMB7885	
P19-28		F. Panel	ANB7349	ANB7351	ANB7351	
P19-32		Pioneer Badge	VAM1124	PAN1377	PAN1377	
P19-40		Power Button	AAD7734	AAD7674	AAD7674	
		REMOTE CONTROL UNIT				
P174- 3		Case A	AZN7938	AZN7906	AZN7906	
P174- 4		Case B	AZN7939	AZN7892	AZN7892	
P174- 5		Frame	AZN7941	AZN7908	AZN7908	
P174- 7		MIC Cap	AZN7942	AZN7909	AZN7909	

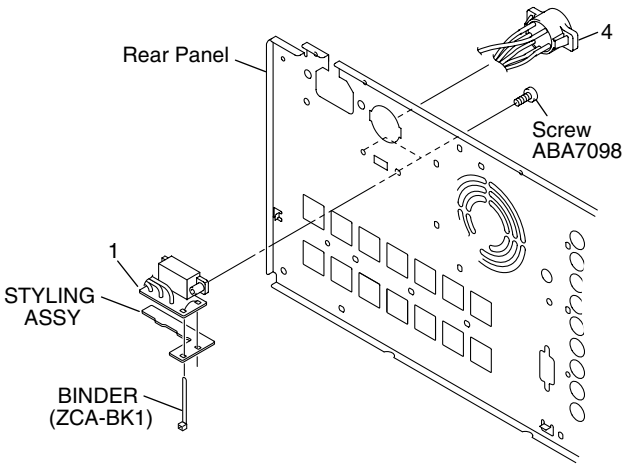
Notes : The numbers in the remarks column correspond to the numbers on the " EXPLODED VIEWS ".
For PCB ASSEMBLIES, Refer to "CONTRAST OF PCB ASSEMBLIES", "PCB PARTS LIST", "2. PCB CONNECTION DIAGRAM" and "3. SCHEMATIC DIAGRAM".

■ EXPLODED VIEWS

■ CHASSIS SECTION



■ REAR PANEL SECTION



■ CONTRAST OF PCB ASSEMBLIES

JF MAIN CONTROL ASSY

AWX8438, AWX8437 and AWX8435 are constructed the same except for the following :

Mark	Symbol and Description	Part No.			Remarks
		AWX8435	AWX8438	AWX8437	
	IC651 RDS DECODER IC	BU1924F	Not used	Not used	
	Q651	2SA1036K	Not used	Not used	
	Q652	DTC143EUA	Not used	Not used	
	Q653	2SC4081	Not used	Not used	
	L651	LFCA2R2J	Not used	Not used	
	C103 - C112, C115, C116	CCSRCH221J50	Not used	Not used	
	C113, C114	CCSRCH101J50	Not used	Not used	
	C117, C118	CCSRCH470J50	Not used	Not used	
	C651, C652	CCSRCH270J50	Not used	Not used	
	C653	CKSRYB102K50	Not used	Not used	
	C654	CEAT101M10	Not used	Not used	
	C655	CEAT2R2M50	Not used	Not used	
	C656	CKSRYB472K50	Not used	Not used	

Mark	Symbol and Description	Part No.			Remarks
		AWX8435	AWX8438	AWX8437	
	C658	CKSRYB561K50	Not used	Not used	
	R123, R124	RS1/16S102J	RS1/16S331J	RS1/16S331J	
	R523	Not used	RS1/16S473J	RS1/16S473J	
	R524	RS1/16S473J	Not used	RS1/16S473J	
	R525	RS1/16S473J	RS1/16S473J	Not used	
	R526	Not used	RS1/16S473J	RS1/16S473J	
	R652	RS1/16S472J	Not used	Not used	
	R653	RS1/16S473J	Not used	Not used	
	R654	RS1/16S222J	Not used	Not used	
	R655	RS1/16S221J	Not used	Not used	
	R657, R671, R672	RS1/16S102J	Not used	Not used	
	X651 (4.332MHz)	ASS7004	Not used	Not used	

AG F PRIMARY ASSY

AWX8463 and AWX8461 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWX8461	AWX8463	
⚠	T1 STANDBY TRANSFORMER	ATT7040	ATT7041	
	R2002	RD1/2VM101J	Not used	
⚠	CN2005 1P AC OUTLET	AKP1034	Not used	
	H2003–H2006 FUSE CLIP	Not used	AKR7001	
	2003 SCREW PLATE	Not used	VNE1948	
NSP	J2001 BOARD IN JUMPER WIRED	Not used	DB846EB0	
NSP	J2002 BOARD IN JUMPER WIRED	Not used	DB316EB0	
NSP	J2003 BOARD IN JUMPER WIRED	Not used	DB146EB0	

AH F VIDEO CONVERT ASSY

AWX8450 and AWX8451 are constructed the same except for the following :

Mark	Symbol and Description	Part No.		Remarks
		AWX8451	AWX8450	
	IC3506 1H DELAY SYSTEM IC	TA8772AN	Not used	
	Q3508, Q3509	2SC4081	Not used	
	Q3510, Q3511	DTC124EUA	Not used	
	L3504	LAU270J	LAU330J	
	L3508	LAU100J	Not used	
	C3581, C3583-C3586, C3596, C3600	CKSRYB104K16	Not used	
	C3603, C3605, C3606	CKSRYB104K16	Not used	
	C3582, C3599, C3604, C3607	CKSRYB103K50	Not used	
	C3601, C3602	CKSRYB474K16	Not used	
	C3635-C3637	CEVW1R0M501	Not used	
	C3645	CEVW470M16	Not used	
	C3646	CEVW100M16	Not used	
	C3647	CEVW101M16	Not used	
	R3518	RS1/16S102J	RS1/16S911J	
	R3555	RS1/16S153J	Not used	
	R3567, R3568	Not used	RS1/16S0R0J	
	R3575, R3576, R3583, R3584, R3593	RS1/16S821J	Not used	
	R3582	RS1/16S362J	Not used	
	R3585, R3586	RS1/16S473J	Not used	
	R3588	RS1/16S153J	Not used	
	R3594	RS1/16S103J	Not used	
	X3501	ASS1092 (4.433619MHz)	ASS1091 (3.579545MHz)	

■ PCB PARTS LIST

Mark	No.	Description	Part No.

AL F VOL-SEL ASSY

SWITCHES AND RELAYS

⚠	S2191	VOLTAGE SELECTOR	AKX1033

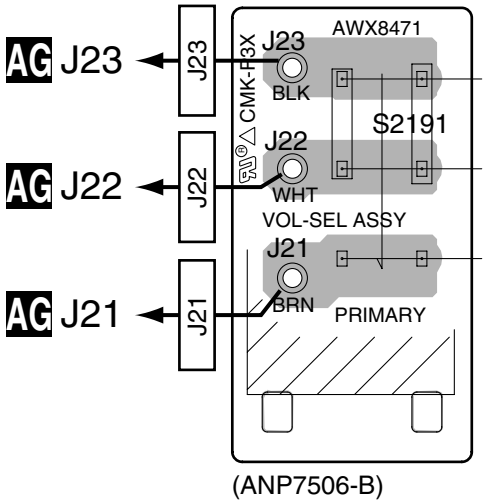
2. PCB CONNECTION DIAGRAM

2.1 VOL-SEL ASSY

SIDE A

SIDE A

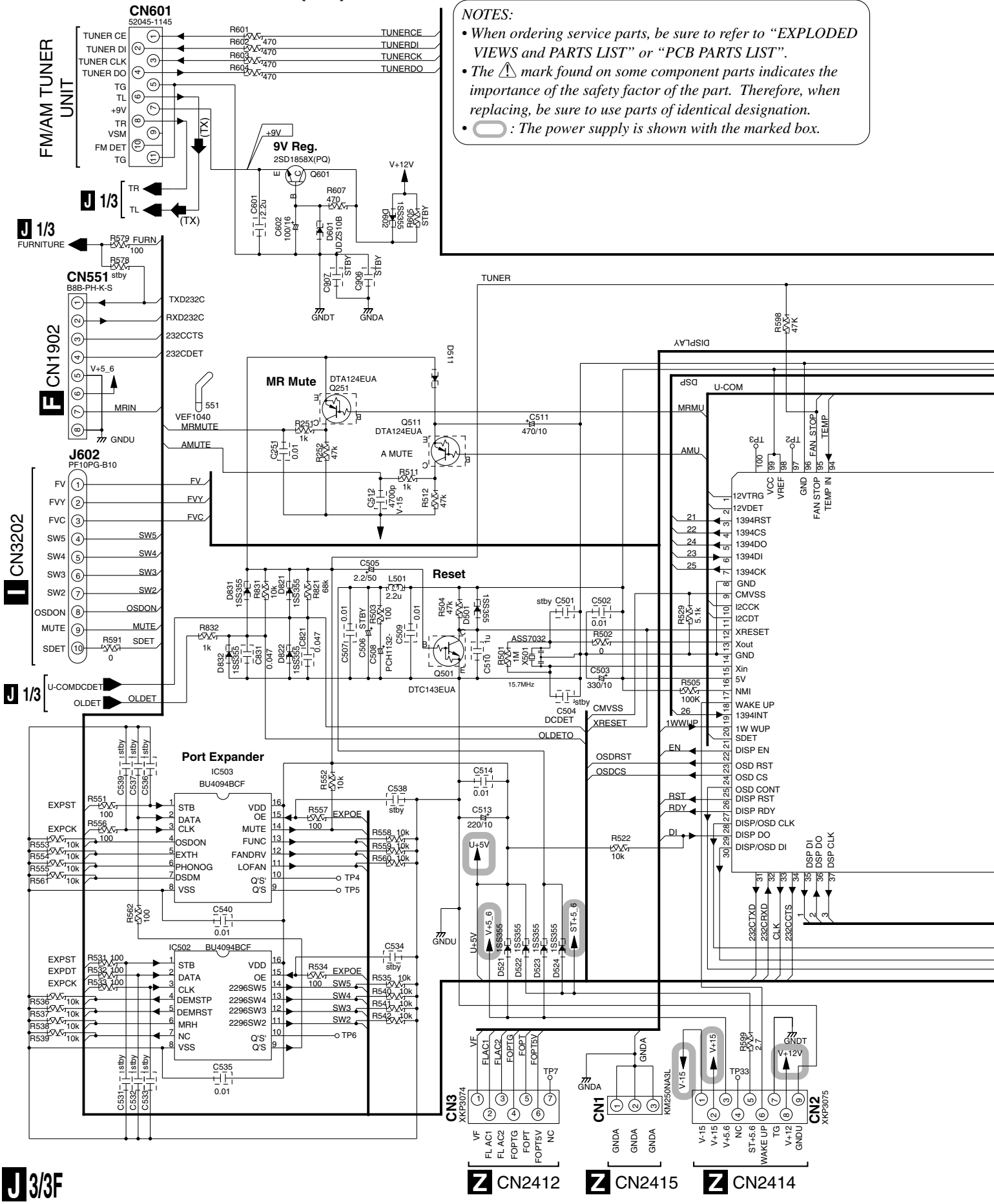
AJF VOL-SEL ASSY

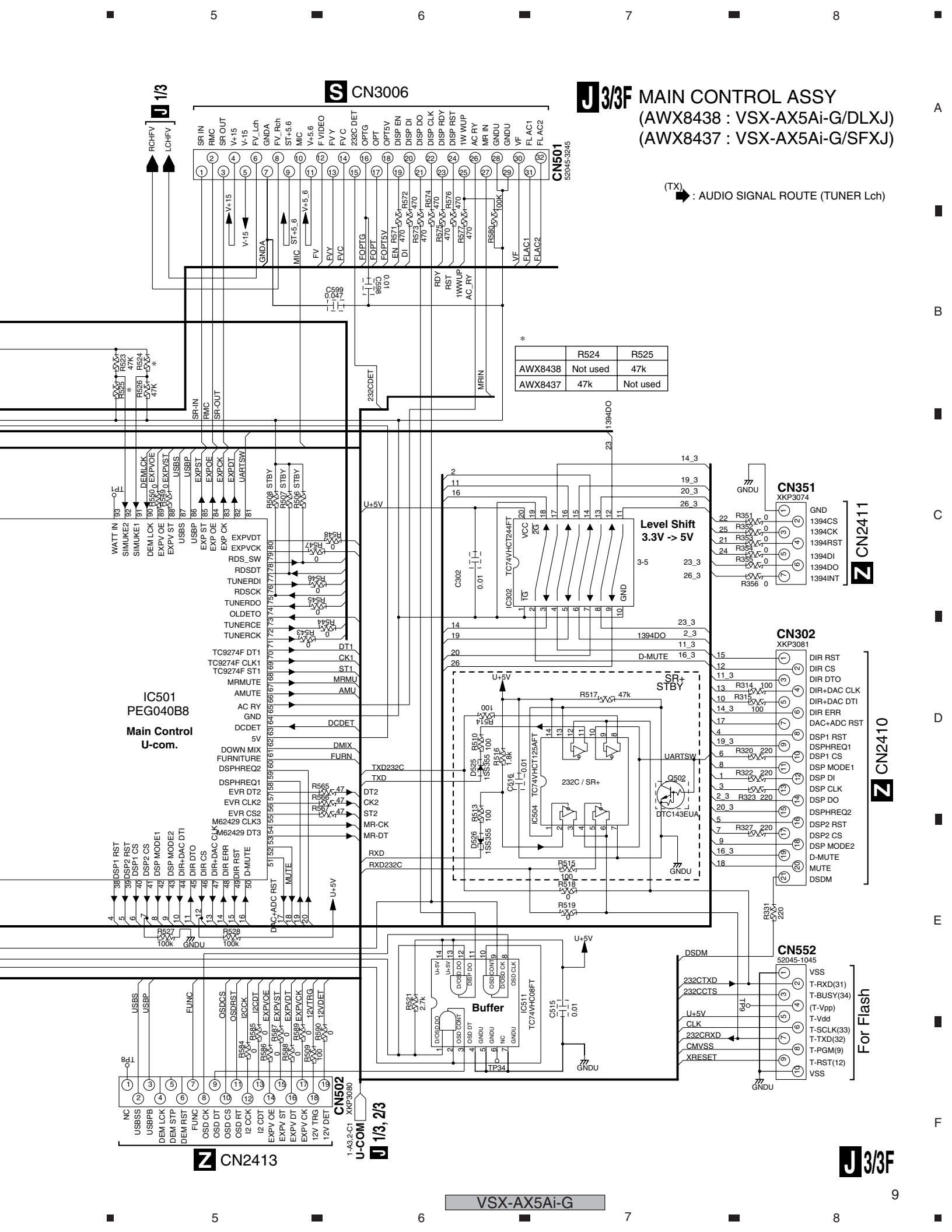


(ANP7506-B)

3. SCHEMATIC DIAGRAM
3.1 MAIN CONTROL ASSY(3/3)

NOTES:
- *When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *: The power supply is shown with the marked box.*

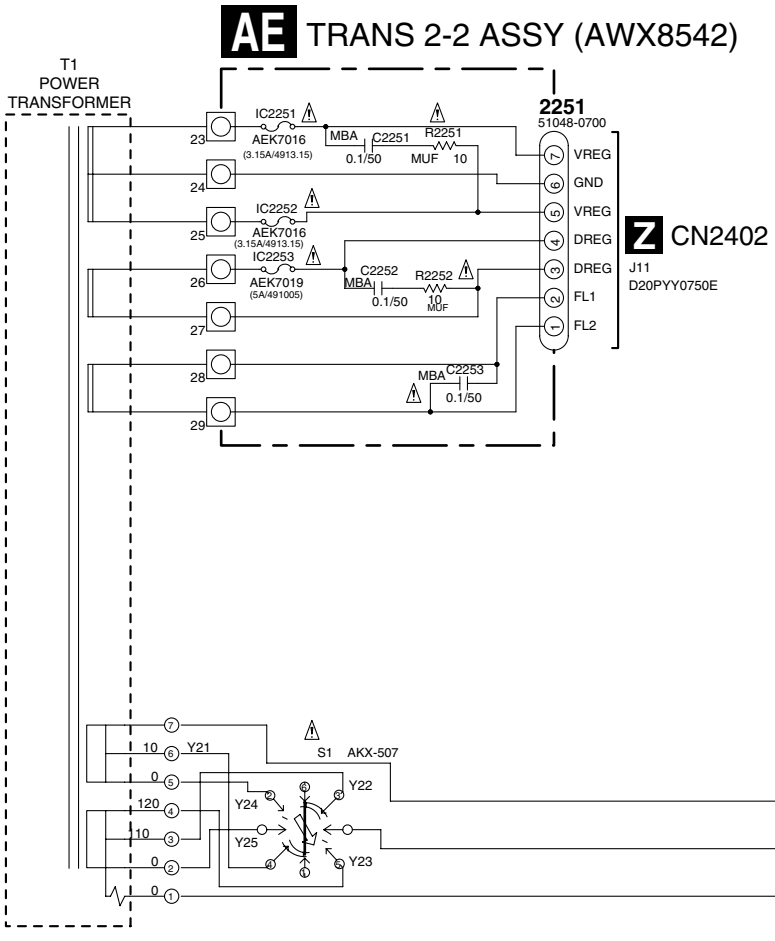



J 3/3F MAIN CONTROL ASSY
(AWX8438 : VSX-AX5Ai-G/DLXJ)
(AWX8437 : VSX-AX5Ai-G/SFXJ)
(TX) : AUDIO SIGNAL ROUTE (TUNER Lch)
S CN3006
CN501
52045-3245
J 1/3
RCHFV
LCHFV
SR IN
RMC
SR OUT
V+15
V-15
FV_Lch
GNDA
FV_Rch
ST+5.6
MIC
V+5.6
F VIDEO
FV Y
FV C
232C DET
OPTG
OPT
OPT5V
DISP EN
DISP DI
DISP DO
DISP CLK
DISP RDY
DISP RST
1W WUP
AC RY
MR IN
GNDU
VF
FL AC1
FL AC2
IC501
PEG040B8
Main Control
U-com.
CN351
XKP3074
CN2411
Z
Level Shift
3.3V -> 5V
TC74VHCT244FT
IC302
CN302
XKP3081
CN2410
SR+
STBY
232C / SR+
TC74VHCT125AFT
IC504
Q502
DTC143EUA
Buffer
IC511
TC74VHC08FT
CN552
52045-1045
For Flash
CN502
XKP3080
U-COM
J 1/3, 2/3
CN2413
1-A3,2-C1
R524 R525
AWX8438 Not used 47k
AWX8437 47k Not used
VSX-AX5Ai-G
9
J 3/3F

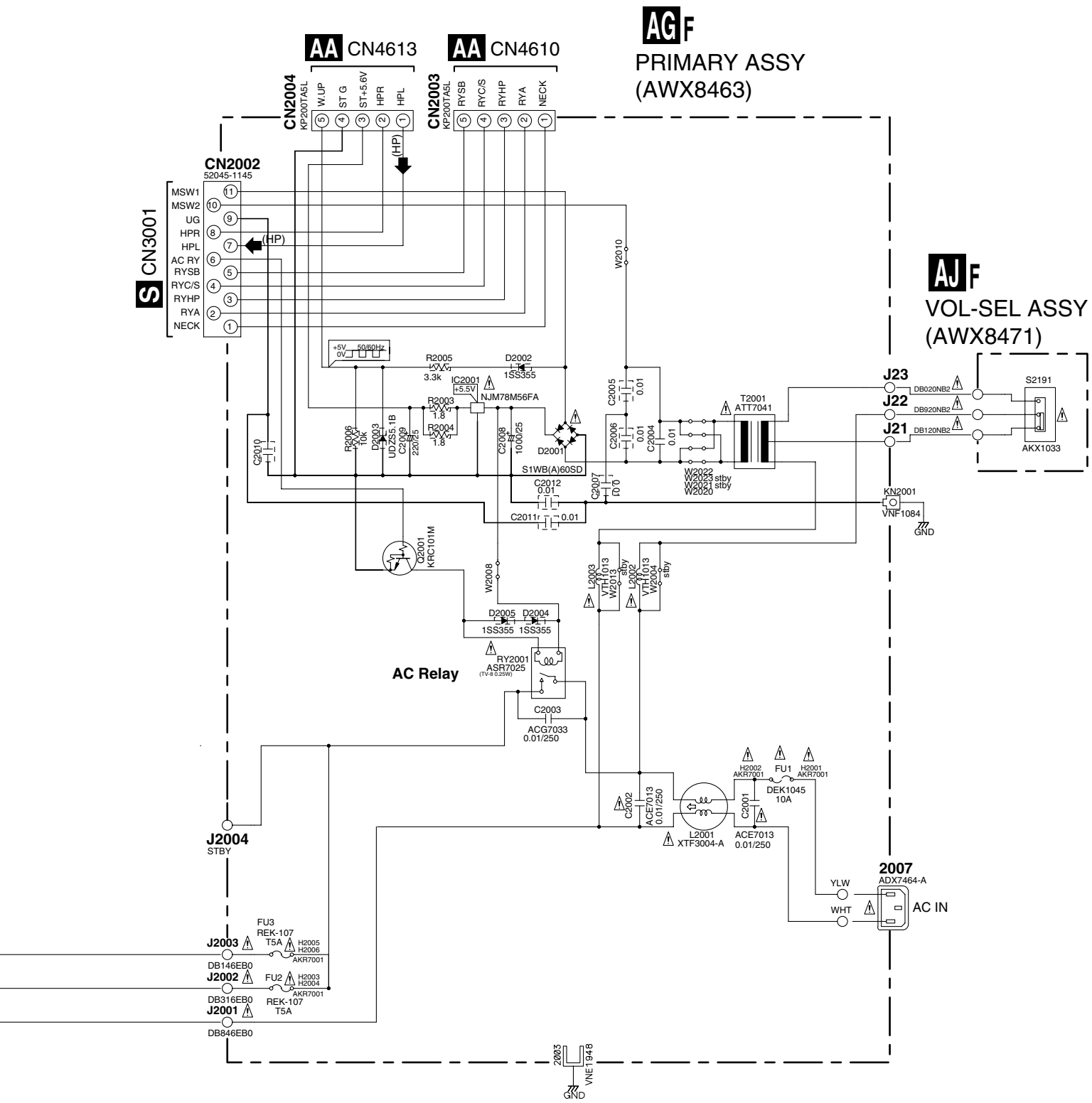
3.2 PRIMARY and VOL-SEL ASSYS

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 4913.15 MFD, BY LITTELFUSE INK. FOR IC2251 AND IC2252.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 MFD, BY LITTELFUSE INK. FOR IC2253.



(HP) : AUDIO SIGNAL ROUTE (PHONES ch)

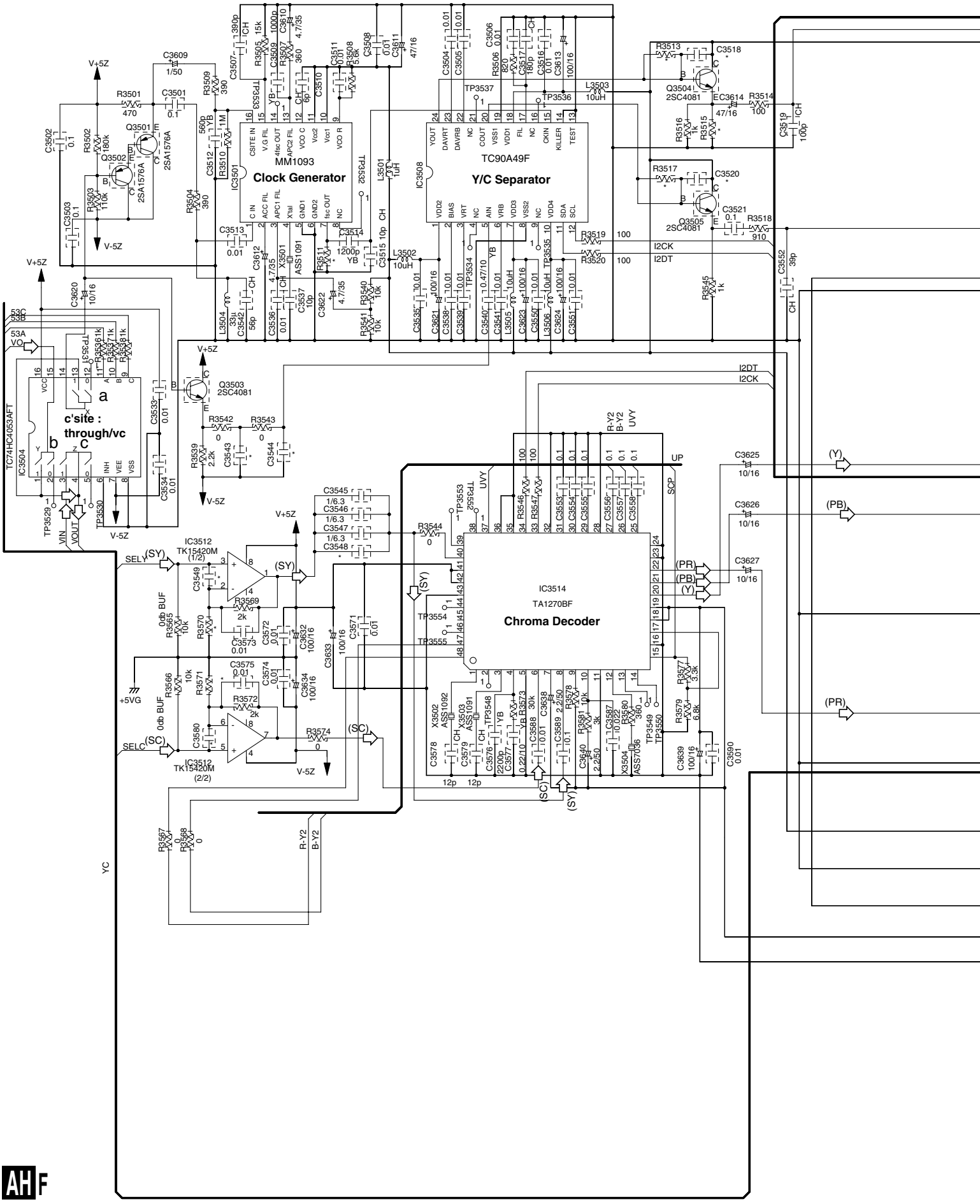


• NOTE FOR FUSE REPLACEMENT

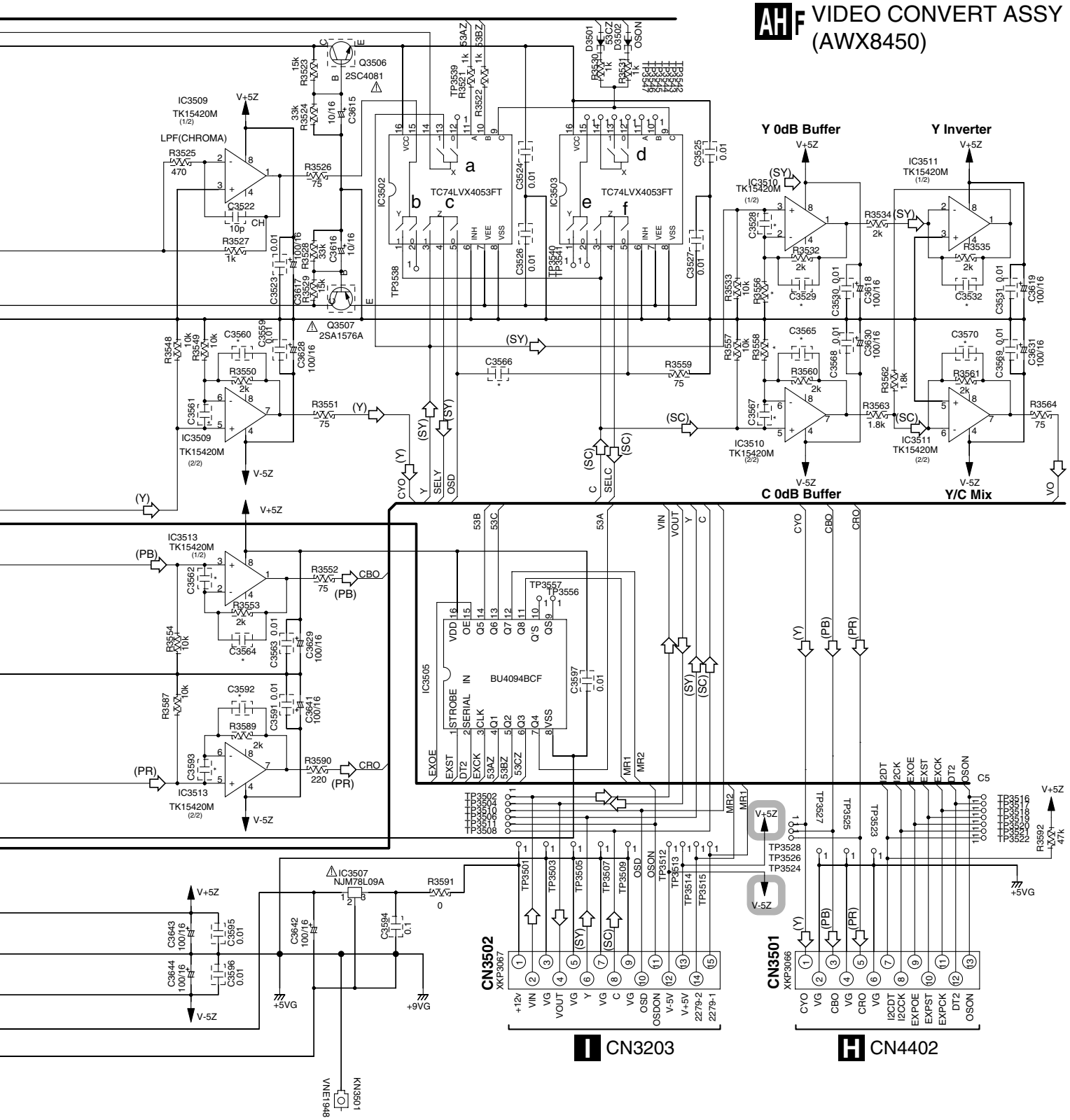
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

AGF AJF

3.3 VIDEO CONVERT ASSY (SFXJ type only)



AHF VIDEO CONVERT ASSY (AWX8450)



: VIDEO SIGNAL ROUTE

(SY) : VIDEO SIGNAL ROUTE (S VIDEO Y ch)

(SC) : VIDEO SIGNAL ROUTE (S VIDEO C ch)

(Y) : VIDEO SIGNAL ROUTE (Y)

(PB) : VIDEO SIGNAL ROUTE (P_B)

(PR) : VIDEO SIGNAL ROUTE (P_R)

AHF

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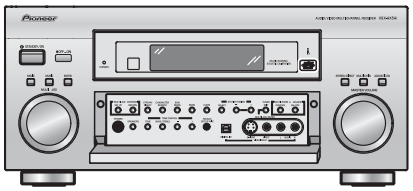
Service Manual



VSX-AX5Ai-S

ORDER NO.
RRV3018

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-AX5Ai-S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	The voltage can be converted by the following method.
VSX-AX5Ai-S	HYXJ	AC220-230V	AC240V, *

***:Alter the wiring of the power-supply block at the primary winding of Power transformer referring to the Line Voltage Selection described in Service Manual.**

For details, refer to "Important symbols for good services".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
ⓒ**PIONEER CORPORATION 2004**

T-ZZV AUG. 2004 printed in Japan

SAFTY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

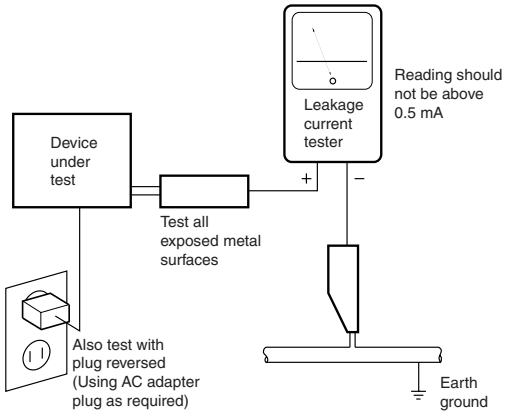
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Leakage current tester
Reading should not be above 0.5 mA
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

SAFTY INFORMATION 2
1. SPECIFICATIONS 6
2. EXPLODED VIEWS AND PARTS LIST 8
2.1 PACKING 8
2.2 EXTERIOR SECTION 10
2.3 CHASSIS SECTION 12
2.4 REAR PANEL SECTION 14
2.5 HEAT SINK SECTION 16
2.6 FRONT PANEL SECTION 18
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM 20
3.1 BLOCK DIAGRAM 20
3.1.1 AUDIO BLOCK DIAGRAM 20
3.1.2 DSP BLOCK DIAGRAM 22
3.1.3 1394 BLOCK DIAGRAM 24
3.1.4 POWER AMP BLOCK DIAGRAM 25
3.1.5 VIDEO BLOCK DIAGRAM 26
3.2 OVERALL WIRING DIAGRAM 28
3.3 7.1 CH I/O, V-AUDIO IN, FRONT IN and OPTICAL IN ASSYS 30
3.4 INPUT CONNECT and 12V TRIGGER ASSYS 32
3.5 COAXIAL IN ASSY 34
3.6 COMPONENT ASSY 36
3.7 VIDEO ASSY 38
3.8 MAIN CONTROL ASSY (1/3) 40
3.9 MAIN CONTROL ASSY (2/3) 42
3.10 MAIN CONTROL ASSY (3/3) 44
3.11 MIC & F.OPT IN, MIC AMP and DSP CONNECTION ASSYS 46
3.12 POWER AMP IN, FAN CONNECTION and FAN DRIVE ASSYS 48
3.13 DSP ASSY (1/2) 50
3.14 DSP ASSY (2/2) 52
3.15 1394 ASSY (1/2) 54
3.16 1394 ASSY (2/2) 56
3.17 DISPLAY ASSY 58
3.18 VOLUME, MULTI JOG, HEADPHONE and MECHA SW ASSYS 60
3.19 POWER AMP-L ASSY 62
3.20 POWER AMP-R and POWER AMP-C ASSYS 64
3.21 REGULATOR ASSY 66
3.22 SP/PS, DIODE, TRANS 2-1 and VH TR ASSYS 68
3.23 TRANS 2-2, TRANS 1 and PRIMARY ASSYS 70
3.24 VIDEO CONVERT ASSY 72
4. PCB CONNECTION DIAGRAM 74
4.1 7.1CH I/O ASSY 75
4.2 V-AUDIO IN ASSY 76
4.3 FRONT IN and OPTICAL IN ASSYS 77
4.4 COAXIAL IN ASSY 78
4.5 INPUT CONNECT and 12V TRIGGER ASSYS 79
4.6 COMPONENT ASSY 81
4.7 VIDEO ASSY 82
4.8 MAIN CONTROL ASSY 84
4.9 MIC & F. OPT IN, MIC AMP and DSP CONNECTION ASSYS 88
4.10 POWER AMP IN ASSY 90
4.11 FAN CONNECTION ASSY 91
4.12 FAN DRIVE ASSY 92
4.13 DSP ASSY 93
4.14 1394 ASSY 95
4.15 DISPLAY ASSY 96
4.16 VOLUME, MULTI JOG, HEADPHONE and MECHA SW ASSYS 98
4.17 POWER AMP L and POWER AMP C ASSYS 100
4.18 POWER AMP R ASSY 104
4.19 REGULATOR ASSY 108
4.20 SP/PS ASSY 112
4.21 DIODE, TRANS 2-1 and VH TR ASSYS 114
4.22 TRANS 2-2, TRANS 1 and PRIMARY ASSYS 116
4.23 VIDEO CONVERT ASSY 118
5. PCB PARTS LIST 119
6. ADJUSTMENT 129

7. GENERAL INFORMATION 130
7.1 DIAGNOSIS 130
7.1.1 PROTECTION CIRCUIT CONTROL SPECIFICATION 130
7.1.2 DIAGNOSTICS OF AMPLIFIER SECTION 132
7.1.3 TROUBLE SHOOTING 133
7.1.4 OUTLINE OF THE 1394 UNIT 138
7.1.5 DISASSEMBLY 140
7.2 PARTS 145
7.2.1 IC 145
7.2.2 DISPLAY 171
7.3 CLEANING 173
7.4 REMOTE CONTROL UNIT 174
7.4.1 EXPLODED VIEWS AND PARTS LIST 174
8. PANEL FACILITIES 175

1. SPECIFICATIONS

Amplifier section

Continuous Power Output (DIN)

Stereo

Front . . . . . 160 W + 160 W (DIN 1kHz, THD 1%, 6 Ω)

Multichannel

Front . . . . . 120 W + 120 W (DIN 1kHz, THD 1%, 8 Ω)
Center . . . . . 120 W + 120 W (DIN 1kHz, THD 1%, 8 Ω)
Surround . . . . 120 W + 120 W (DIN 1kHz, THD 1%, 8 Ω)
Surround back 120 W + 120 W (DIN 1kHz, THD 1%, 8 Ω)

Rated Power Output (Stereo) . . . . . 140W+140W
(20Hz – 20kHz, 0.09%, 6Ω)

Rated Power Output . . . . . 110W+110W
(20Hz – 20kHz, 0.09%, 8Ω)

Audio Section

Input (Sensitivity/Impedance)
PHONO MM . . . . . 4.7 mV/47 k Ω
LINE . . . . . 335 mV/47 k Ω

Frequency Response
PHONO MM . . . . . 20 Hz to 20,000 Hz ± 0.3 dB
LINE . . . . . 5 Hz to 100,000 Hz $^{+0}_{-3}$ dB

Output (Level/Impedance)
LINE . . . . . 335 mV/2.2 k Ω

Tone Control
BASS . . . . . ± 6 dB (100 Hz)
TREBLE . . . . . ± 6 dB (10 kHz)
LOUDNESS . . . . . +4/+2 dB (100Hz/10 kHz)
(at volume position -40dB)

Signal-to-Noise Ratio (IHF, short circuited, A network)
LINE . . . . . 101 dB

Signal-to-Noise Ratio
[DIN (Continuous rated power output/50 mW)]
LINE . . . . . 92/65 dB

Composite Video / S-Video Section

Input (Sensitivity/Impedance) . . . . . 1 Vp-p/75 Ω
Output (Level/Impedance) . . . . . 1 Vp-p/75 Ω
Signal-to-Noise Ratio . . . . . 65 dB
Frequency Response . . . . . 5 Hz to 10 MHz $^{+0}_{-3}$ dB

Component Video Section

Input (Sensitivity/Impedance) . . . . . 1 Vp-p/75 Ω
Output (Level/Impedance) . . . . . 1 Vp-p/75 Ω
Signal-to-Noise Ratio . . . . . 65 dB
Frequency Response . . . . . 5 Hz to 100 MHz $^{+0}_{-3}$ dB

FM Tuner Section

Frequency Range . . . . . 87.5 MHz to 108 MHz
Usable Sensitivity . . . . . Mono: 15.2 dBf, IHF (1.6 µV/75 Ω)
50 dB Quieting Sensitivity . . . . . Mono: 20.2 dBf
Stereo: 41.2 dBf
Sensitivity (DIN) . . . . . Mono: 1.1 µV (S/N 26 dB)
Stereo: 50 µV (S/N 46 dB)
Signal-to-Noise Ratio . . . . . Mono: 76 dB (at 85 dBf)
Stereo: 72 dB (at 85 dBf)
Signal-to-Noise Ratio (DIN) . . . . . Mono: 62 dB
Stereo: 58 dB
Distortion . . . . . Stereo: 0.6% (1 kHz)
Alternate Channel Selectivity . . . . . 70 dB (400 kHz)
Stereo Separation . . . . . 40 dB (1 kHz)
Frequency Response . . . . . 30 Hz to 15 kHz ± 1dB
Antenna Input . . . . . 75 Ω unbalanced

AM Tuner Section

Frequency Range . . . . . 531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna) . . . . . 350 µV/m
Selectivity . . . . . 30 dB
Signal-to-Noise Ratio . . . . . 50 dB
Antenna . . . . . Loop antenna

Miscellaneous

Power Requirements . . . . . AC 220 – 230 V, 50/60 Hz
Power Consumption . . . . . 600 W
Power Consumption in standby 0.8W
AC outlet (switched) . . . . . 100 W MAX
Dimensions . . . . . 420 (W) x 188 (H) x 464 (D) mm
Weight (without package) . . . . . 21.2 kg

Furnished Parts

Microphone (for Auto Surround Setup) 1
Microphone stand 1
Remote control unit 1
Alkaline batteries (AA IEC LR6) 4
AM loop antenna 1
FM wire antenna 1
Power cord 1
These operating instructions

Note

Specifications and the design are subject to possible modifications without notice, due to improvements.

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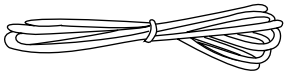
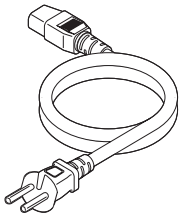
- "DTS", "DTS-ES Extended Surround" and "Neo:6" are trademarks of Digital Theater Systems, Inc.

● Accessories

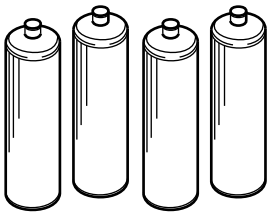
AM Loop Antenna
(ATB7013)



FM Wire Antenna
(ADH7030)

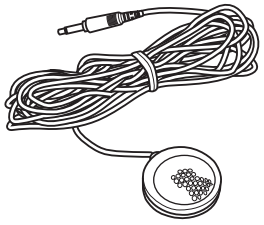


AC Power Cord
(ADG7062)

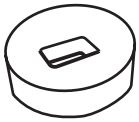


"AA" IEC LR6 batteries

Remote Control Unit
(AXD7364)



Microphone for Auto
Surround Sound Setup
(APM7004)

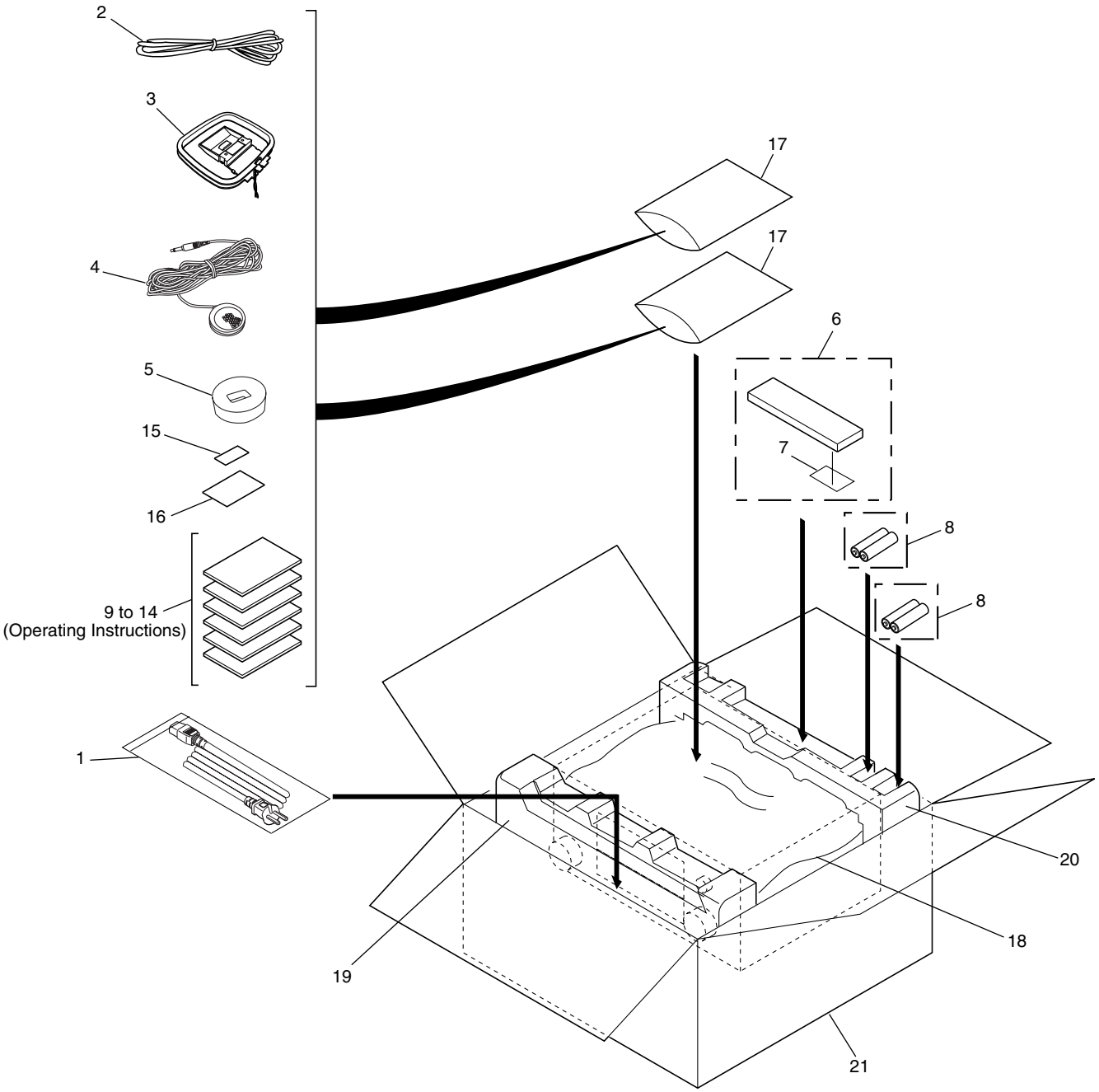


Microphone Stand for Auto
Surround Sound Setup
(AEB7269)

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

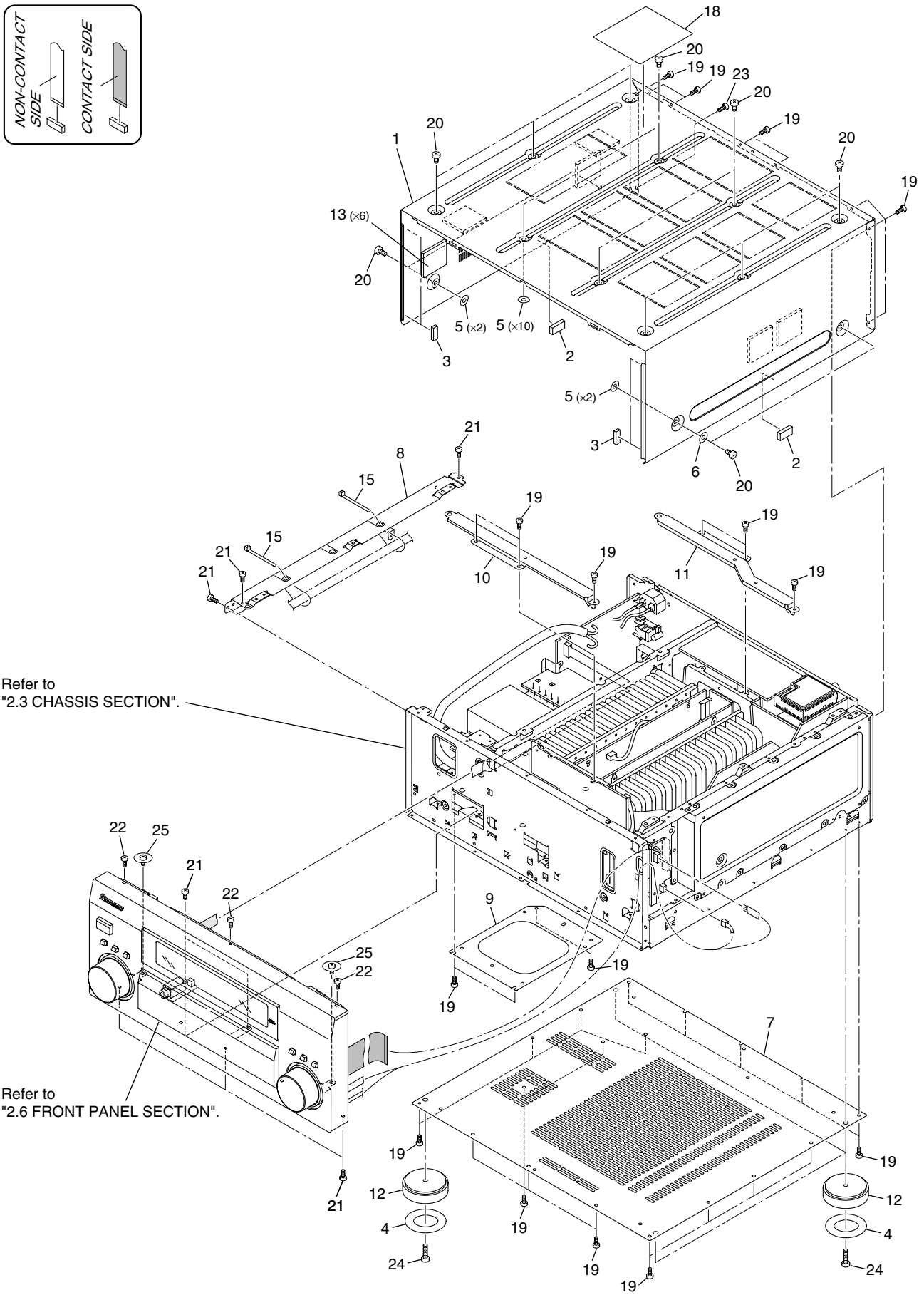
2.1 PACKING



PACKING parts List

Mark	No.	Description	Part No.
⚠	1	Power Cord	ADG7062
	2	FM Wire Antenna	ADH7030
	3	AM Loop Antenna	ATB7013
	4	Microphone for Auto Surround Sound Setup	APM7004
	5	Microphone Stand for Auto Surround Sound Setup	AEB7269
	6	Remote Control Unit	AXD7364
	7	Battery Cover	AZN7940
NSP	8	Dry Cell Battery (AA/LR6)	VEM1023
	9	Operating Instructions (English / French)	ARB7308
	10	Operating Instructions (French)	ARC7541
	11	Operating Instructions (German)	ARC7542
	12	Operating Instructions (Italian)	ARC7543
	13	Operating Instructions (French / Spanish)	ARC7544
	14	Operating Instructions (Dutch)	ARC7545
	15	Caution Sheet SP, E	ARM7056
NSP	16	Warranty Card	ARY7065
NSP	17	Polyethylene Bag	AHG7117
	18	Packing Sheet	RHC1023
	19	Front Pad 45	AHA7374
	20	Rear Pad 45	AHA7375
	21	Packing Case AX5A/HY	AHD8273

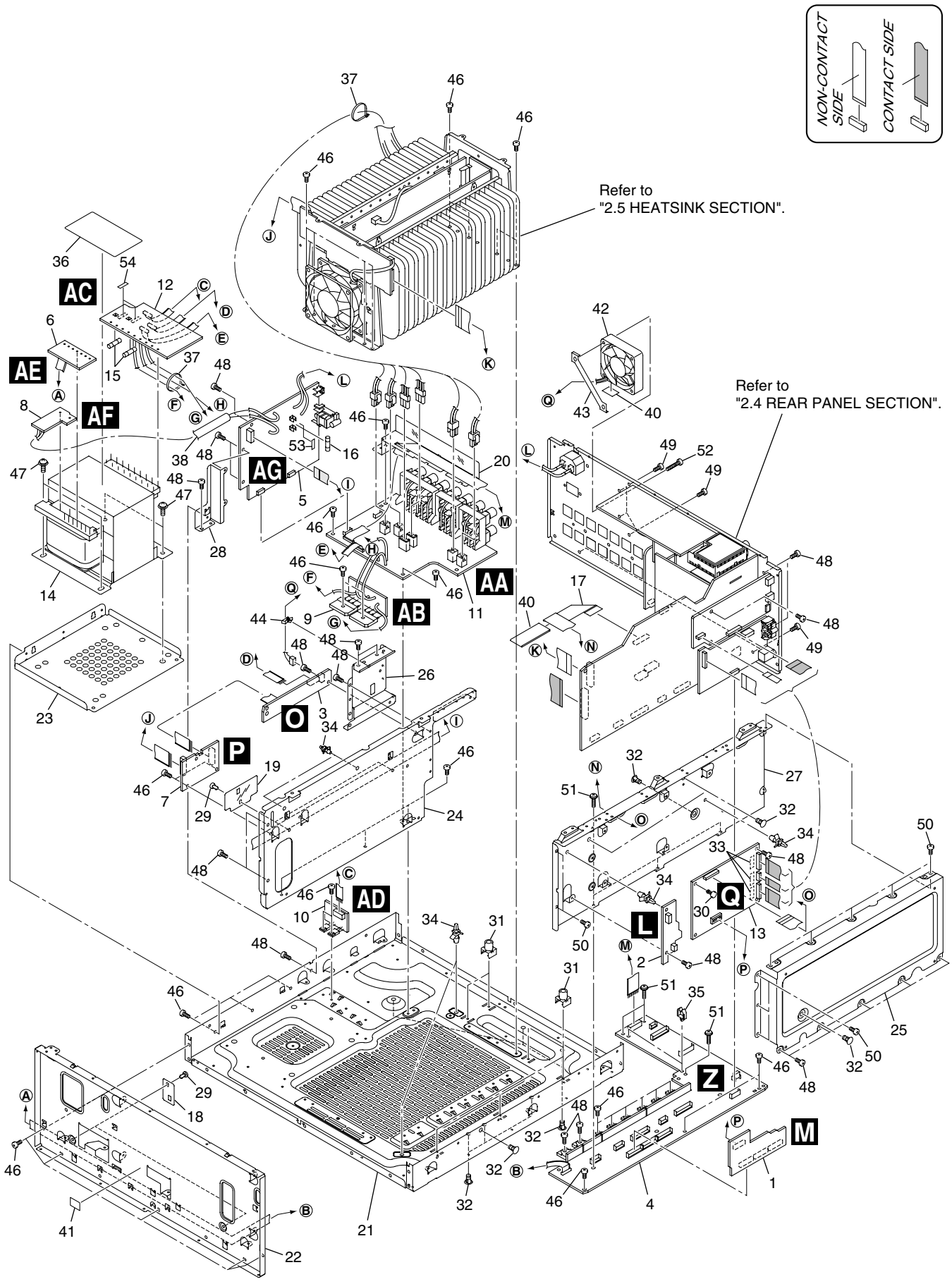
2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

Mark	No.	Description	Part No.
	1	Bonnet Case 56S	AZN7993
	2	Spacer 45A (3.5 x 10 x 27)	AEB7263
	3	Spacer 45B (6 x 7 x 13)	AEB7264
	4	Cushion	AEC7224
	5	Spacer Circle (10 x 5)	AEC7330
	6	Spacer Circle (CLEAR)	AEC7531
	7	Bottom Plate 56	ANF7039
	8	Left Beam 45	ANG7401
	9	Stabilizer 45	ANG7408
	10	Bridge Frame 45F	ANG7409
	11	Bridge Frame 45R	ANG7410
	12	Insulator 56	ANL7028
	13	Bonnet Sheet (2 x 50 x 50)	AEB7329
	14	•••••	
NSP	15	Binder	ZCA-BK1
	16	•••••	
	17	•••••	
	18	Label (DD/DTS/THX)	ARW7281
	19	Screw	ABA7098
	20	Screw	ABA7119
	21	Screw	ABA7102
	22	Screw	ABA7118
	23	Screw	ABA7101
	24	Screw	ABA7120
	25	Screw	ABA7110

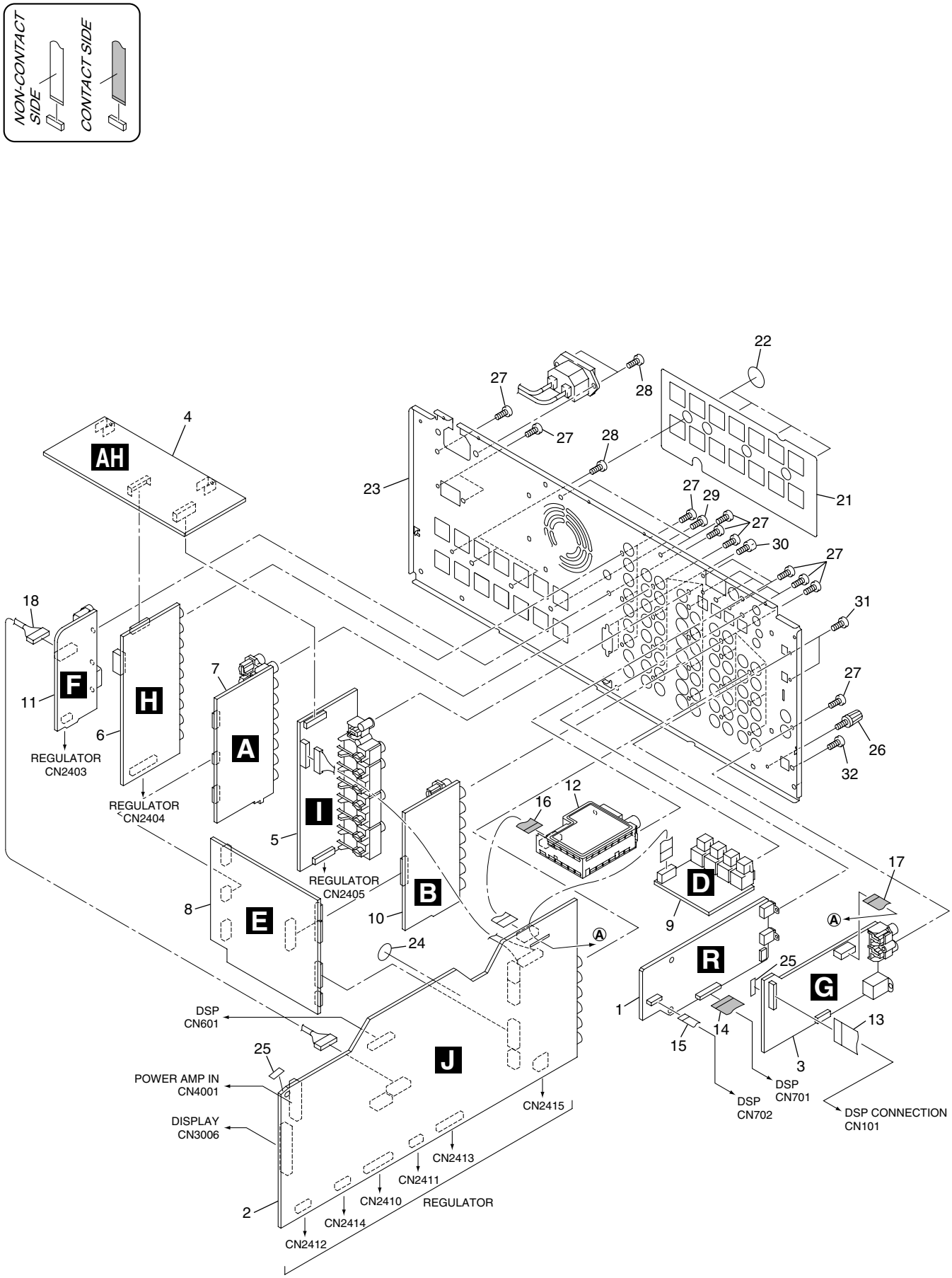
2.3 CHASSIS SECTION



CHASSIS SECTION parts List

Mark	No.	Description	Part No.
	1	DSP CONNECTION Assy	AWX8441
	2	MIC AMP Assy	AWX8447
	3	FAN CONNECTION Assy	AWX8448
	4	REGULATOR Assy	AWX8541
	5	PRIMARY Assy	AWX8461
	6	TRANS 2-2 Assy	AWX8542
	7	FAN DRIVE Assy	AWX8488
	8	TRANS 1 Assy	AWX8464
	9	DIODE Assy	AWX8555
	10	VH TR Assy	AWX8557
	11	SP/PS Assy	AWX8470
	12	TRANS 2-1 Assy	AWX8551
	13	DSP Assy	AWX8489
⚠	14	Power Transformer (T1)	ATS7381
⚠	15	Fuse (FU4, 5 : T2.5AL250V)	REK1026
⚠	16	Fuse (FU1 : T4AL250V)	REK-106
	17	21P Flexible Cable (J7)	ADD7355
	18	Styling Sheet	AEC7413
	19	Styling Sheet B	AEC7437
	20	Barrier 45	AEC7444
NSP	21	Under Base 56	ANA7170
NSP	22	Panel Stay 45	AND7047
	23	Trans. Frame 45	ANG7399
	24	Trans. Shield 45	ANG7400
	25	DSP Shield 45 B	ANG7403
	26	Fan Box 45	ANG7413
	27	DSP Shield 1394 A	ANG7420
	28	Primary Angle 56	ANG7526
	29	Push Rivet	AEC7370
	30	Nyron Rivet	AEC7408
	31	PCB Mold	AMR2534
	32	Card Spacer	DNK2769
NSP	33	Tape	PNM1249
	34	Locking Card Spacer	PNW2917
	35	Holder	VEC1355
NSP	36	Trans. Label 56	AAX8048
NSP	37	Binder	ZCA-BK1
	38	Glass Tube (14 x 260)	ADN7009
	39	•••••	
NSP	40	Tape	ZTA-156A-19
	41	Cushion 11 x 11	AED7088
⚠	42	Fan Motor (Rear)	AXM7031
	43	Fan Plate	ANG7153
NSP	44	Mini Clamp	VEC1597
	45	•••••	
	46	Screw	ABA7098
	47	Screw	ABA7109
	48	Screw	ABA7102
	49	Screw	ABA7101
	50	Screw	ABA7118
	51	Screw	ABA7100
	52	Screw	BBZ30P200FCC
NSP	53	Fuse Card	AAX7099
NSP	54	Fuse Card	AAX7277

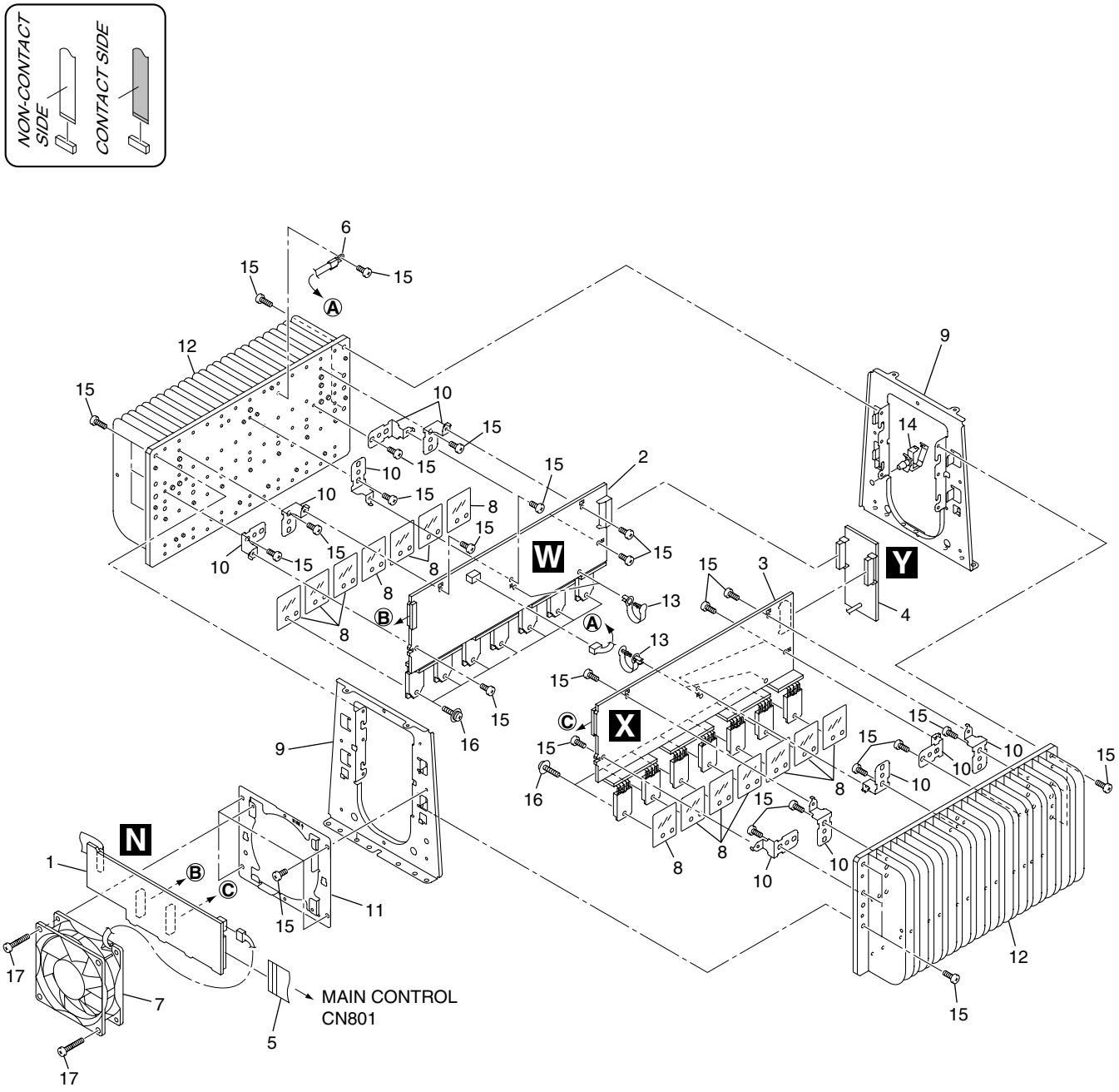
2.4 REAR PANEL SECTION



REAR PANEL SECTION parts List

Mark	No.	Description	Part No.
	1	1394 Assy	AWK7834
	2	MAIN CONTROL Assy	AWX8435
	3	COAXIAL IN Assy	AWX8443
	4	VIDEO CONVERT Assy	AWX8451
	5	VIDEO Assy	AWX8452
	6	COMPONENT Assy	AWX8454
	7	7.1CH I/O Assy	AWX8543
	8	INPUT CONNECT Assy	AWX8546
	9	OPTICAL IN Assy	AWX8556
	10	V-AUDIO IN Assy	AWX8558
	11	12V TRIGGER Assy	AWX8548
	12	FM/AM TUNER Unit	AXX7170
	13	20P Flexible Cable (J6)	ADD7354
	14	22P Flexible Cable (J16)	ADD7431
	15	10P Flexible Cable (J17)	ADD7432
	16	11P Flexible Cable (J8)	ADD7468
	17	9P Flexible Cable (J5)	ADD7469
	18	Connector Assy (8P)(J1902)	ADE7085
	19	•••••	
	20	•••••	
	21	Speaker Sheet KU	AAK8016
	22	Cushion Circle 16B	AED7052
	23	Rear Panel AX5AI	ANC8280
	24	Cushion Circle 6B	AED7044
NSP	25	Tape	PNM1249
	26	Terminal Screw	AKE-031
	27	Screw	ABA7098
	28	Screw	ABA7102
	29	Screw	ABA1208
	30	Screw	ABA7078
	31	Screw	PCZ26P060FCC
	32	Screw	PMZ30P060FCC

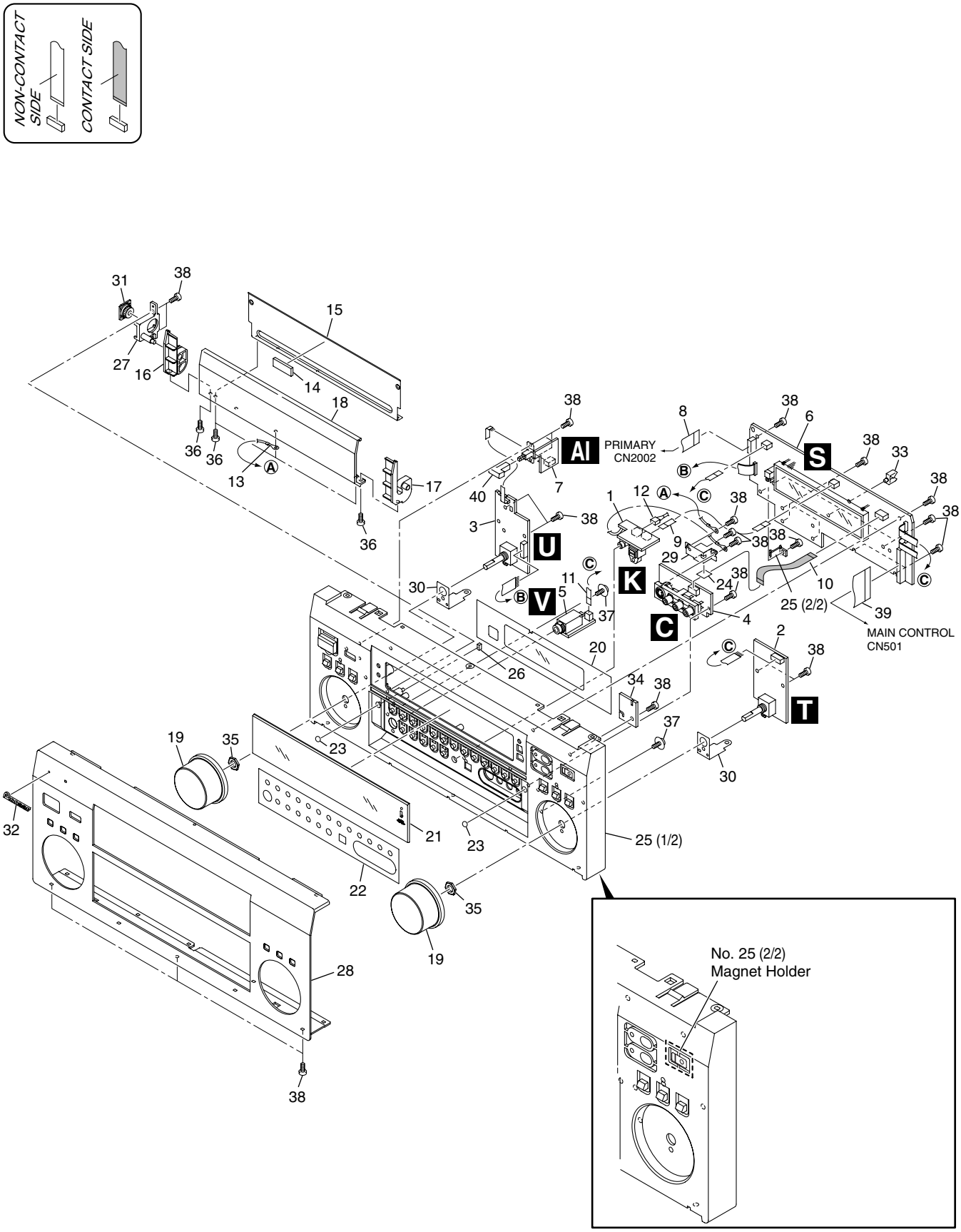
2.5 HEAT SINK SECTION



HEAT SINK SECTION parts List

Mark	No.	Description	Part No.
NSP	1	POWER AMP IN Assy	AWX8544
	2	POWER AMP-L Assy	AWX8560
	3	POWER AMP-R Assy	AWX8561
	4	POWER AMP-C Assy	AWX8562
	5	24P Flexible Cable (J14)	ADD7357
⚠	6	Thermistor (TH1)	AEX7014
⚠	7	Fan Motor (Front)	AXM7032
	8	Mica Sheet 45	AEE7047
	9	H.S Angle 45	ANG7404
	10	PCB Angle 45	ANG7406
	11	Fan Holder 80	ANG7407
NSP	12	Heatsink 45	ANH7152
NSP	13	Speed Clamp	AEC7445
NSP	14	Wire Saddle	DEC1450
	15	Screw	ABA7102
	16	Screw	ABA7085
	17	Screw	BBZ30P300FTC

2.6 FRONT PANEL SECTION



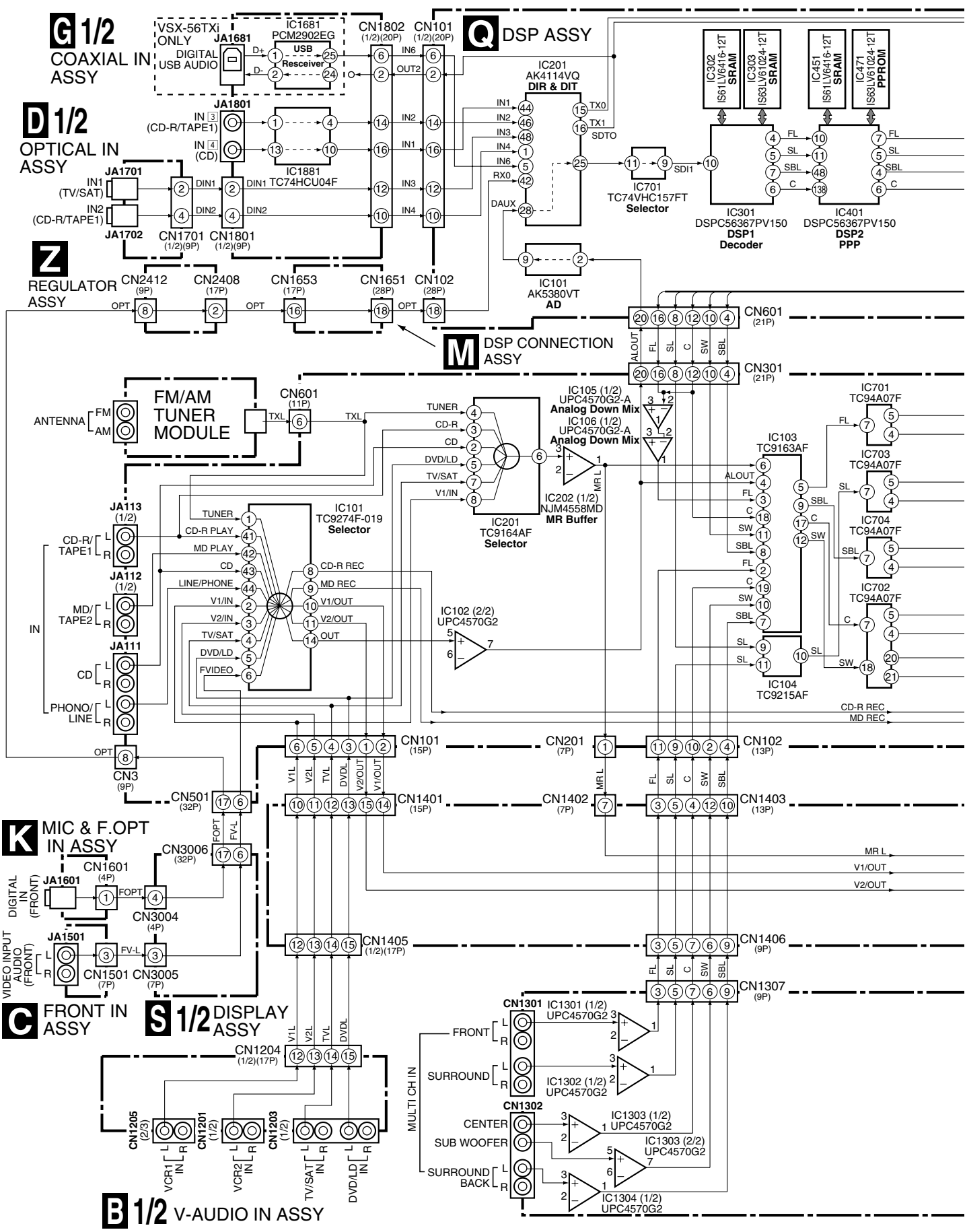
FRONT PANEL SECTION parts List

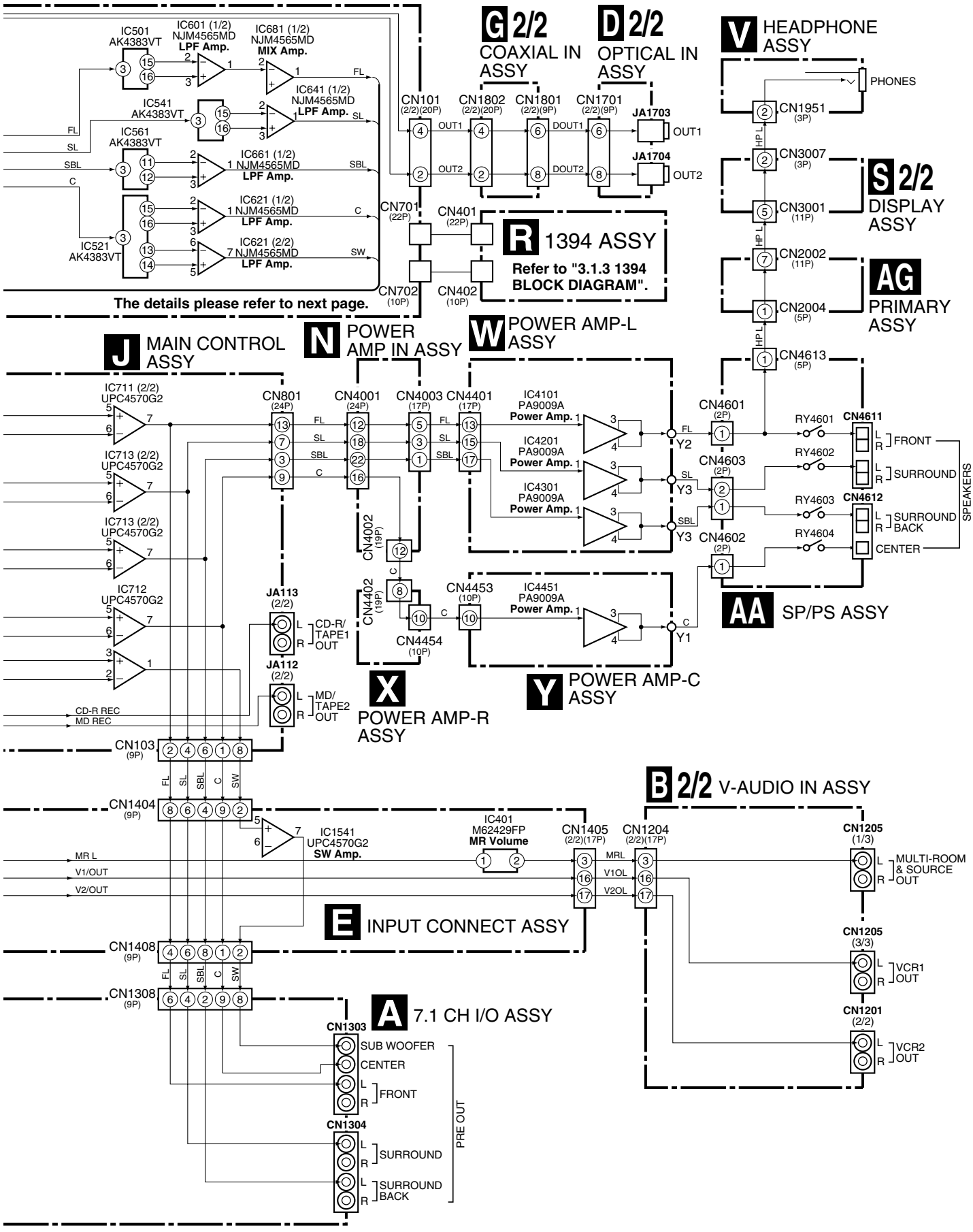
Mark	No.	Description	Part No.
	1	MIC & F. OPT IN Assy	AWX8545
NSP	2	VOLUME Assy	AWX8550
NSP	3	MULTI JOG Assy	AWX8552
NSP	4	FRONT IN Assy	AWX8549
NSP	5	HEADPHONE Assy	AWX8554
	6	DISPLAY Assy	AWX8559
	7	MECHA SW Assy	AWX8553
	8	11P Flexible Cable (J2)	ADD7350
	9	4P Flexible Cable (J3)	ADD7351
	10	7P Flexible Cable (J4)	ADD7352
	11	3P Flexible Cable (J15)	ADD7371
	12	Connector Assy (3P)(J1901)	ADE7084
	13	Cord with Plug	ADH7022
	14	Spacer 45A (3.5 x 10 x 27)	AEB7263
	15	Door Stay 45S	AAH7097
	16	Door Hinge L 45S	AMR7424
	17	Door Hinge R 45S	AMR7425
	18	Door 2011S	ANB7280
	19	Rotary Knob L SL	AAA7017
	20	FL Sheet 45W	AAK7956
	21	Window AX5AI S	AAK8234
	22	D. Sheet AX5A	AAK8239
	23	Cushion Circle 56S	AED7087
	24	Cushion 11 x 11	AED7088
	25	Panel Base 56S	AMB7884
	26	Magnet 35	AMF7007
	27	Door Shaft 35	AMR7295
	28	F. Panel AX5A SHY	ANB7349
	29	Earth Plate A	ANG7411
	30	Earth Plate B	ANG7412
	31	Damper Assy (200)	AXA7088
	32	Pioneer Badge	VAM1124
	33	Holder	VEC1355
NSP	34	Styling Assy	• • • • •
	35	Nut	NK90FUC
	36	Screw	ABA7098
	37	Screw	ABA7110
	38	Screw	BPZ30P100FTC
	39	32P Flexible Cable (J1)	ADD7349
	40	Power Button 56S	AAD7734

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

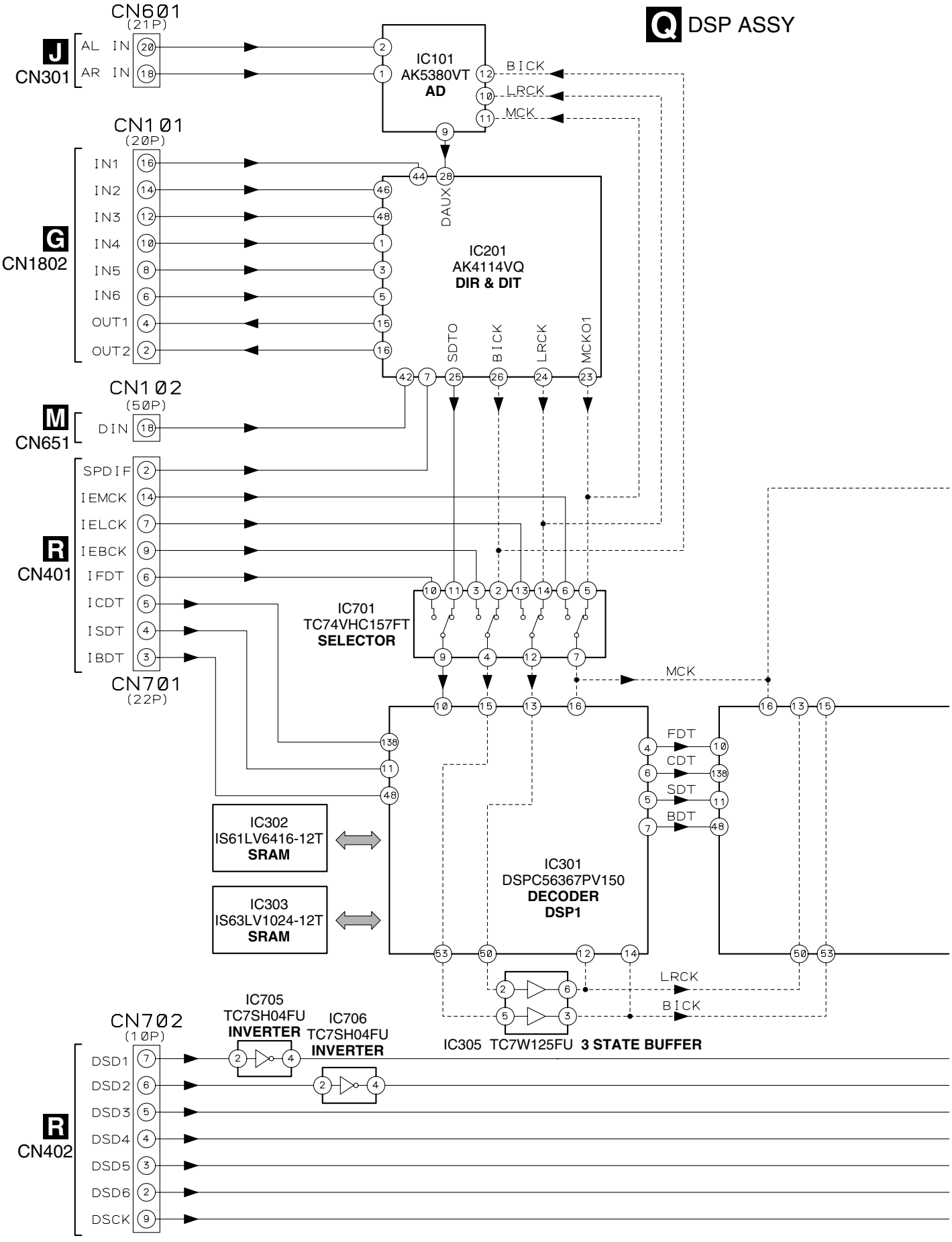
3.1 BLOCK DIAGRAM

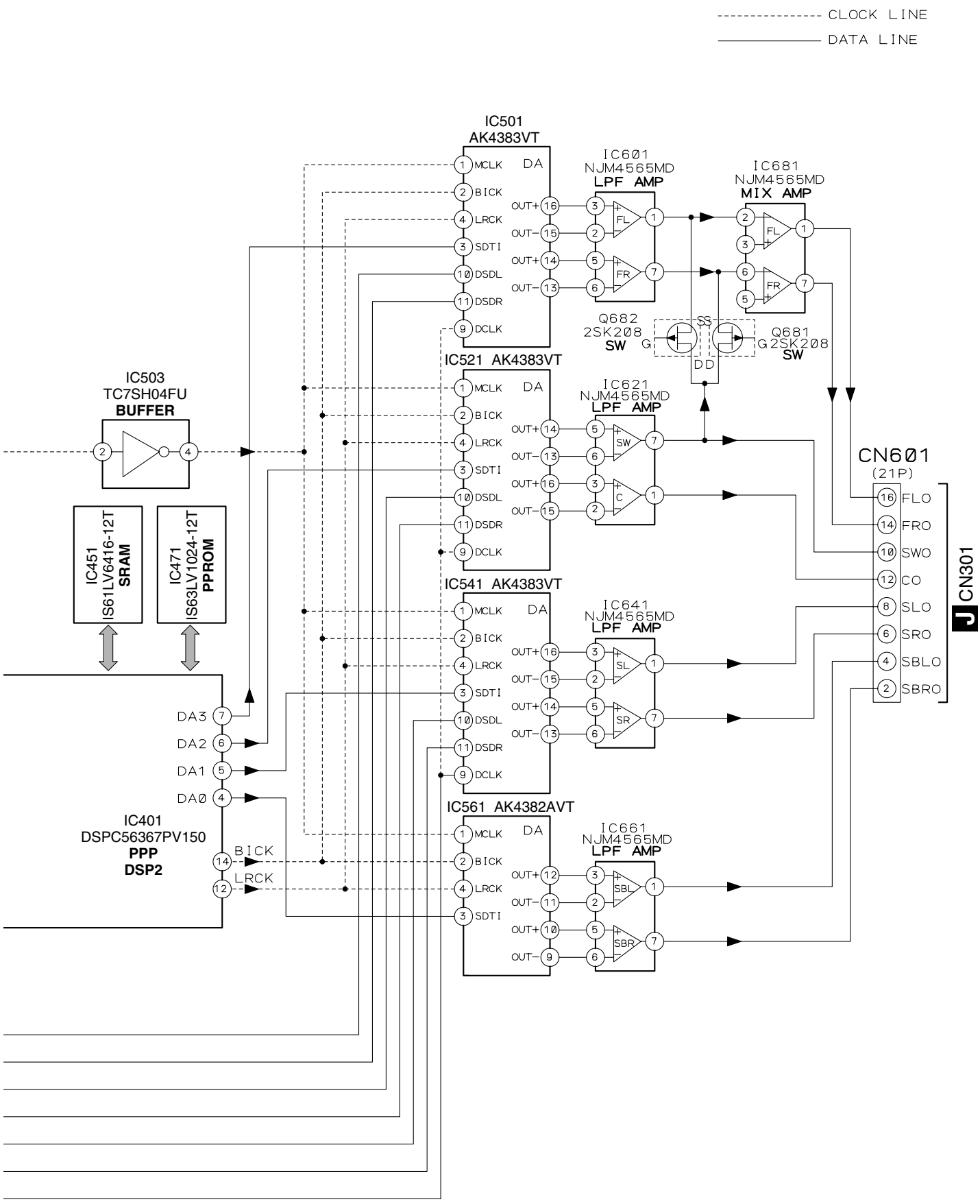
3.1.1 AUDIO BLOCK DIAGRAM




G 2/2 COAXIAL IN ASSY
D 2/2 OPTICAL IN ASSY
V HEADPHONE ASSY
IC501 AK4383VT
IC601 (1/2) NJM4565MD LPF Amp.
IC681 (1/2) NJM4565MD MIX Amp.
IC641 (1/2) NJM4565MD LPF Amp.
IC541 AK4383VT
IC561 AK4383VT
IC661 (1/2) NJM4565MD LPF Amp.
IC621 (1/2) NJM4565MD LPF Amp.
IC521 AK4383VT
IC621 (2/2) NJM4565MD LPF Amp.
FL
SL
SBL
C
SW
CN101 (2/2)(20P)
CN1802 (2/2)(20P)
CN1801 (2/2)(9P)
CN1701 (2/2)(9P)
JA1703
JA1704
OUT1
OUT2
DOUT1
DOUT2
PHONES
CN1951 (3P)
CN3007 (3P)
CN3001 (11P)
CN2002 (11P)
CN2004 (5P)
CN4613 (5P)
HP L
S 2/2 DISPLAY ASSY
AG PRIMARY ASSY
CN701 (22P)
CN702 (10P)
CN401 (22P)
CN402 (10P)
R 1394 ASSY
Refer to "3.1.3 1394 BLOCK DIAGRAM".
The details please refer to next page.
J MAIN CONTROL ASSY
N POWER AMP IN ASSY
W POWER AMP-L ASSY
IC711 (2/2) UPC4570G2
IC713 (2/2) UPC4570G2
IC712 UPC4570G2
CN801 (24P)
CN4001 (24P)
CN4003 (17P)
CN4401 (17P)
IC4101 PA9009A Power Amp.
IC4201 PA9009A Power Amp.
IC4301 PA9009A Power Amp.
CN4601 (2P)
CN4603 (2P)
CN4602 (2P)
RY4601
RY4602
RY4603
RY4604
CN4611
CN4612
FRONT
SURROUND
SURROUND BACK
CENTER
SPEAKERS
Y2
Y3
CN4002 (19P)
CN4402 (19P)
CN4453 (10P)
CN4454 (10P)
IC4451 PA9009A Power Amp.
Y1
AA SP/PS ASSY
JA113 (2/2)
JA112 (2/2)
CD-R/ TAPE1 OUT
MD/ TAPE2 OUT
CD-R REC
MD REC
X POWER AMP-R ASSY
Y POWER AMP-C ASSY
CN103 (9P)
CN1404 (9P)
CN1408 (9P)
CN1308 (9P)
B 2/2 V-AUDIO IN ASSY
IC1541 UPC4570G2 SW Amp.
IC401 M62429FP MR Volume
CN1405 (2/2)(17P)
CN1204 (2/2)(17P)
MR L
V1/OUT
V2/OUT
MRL
V1OL
V2OL
CN1205 (1/3)
CN1205 (3/3)
CN1201 (2/2)
MULTI-ROOM & SOURCE OUT
VCR1 OUT
VCR2 OUT
E INPUT CONNECT ASSY
A 7.1 CH I/O ASSY
CN1303
CN1304
SUB WOOFER
CENTER
FRONT
SURROUND
SURROUND BACK
PRE OUT

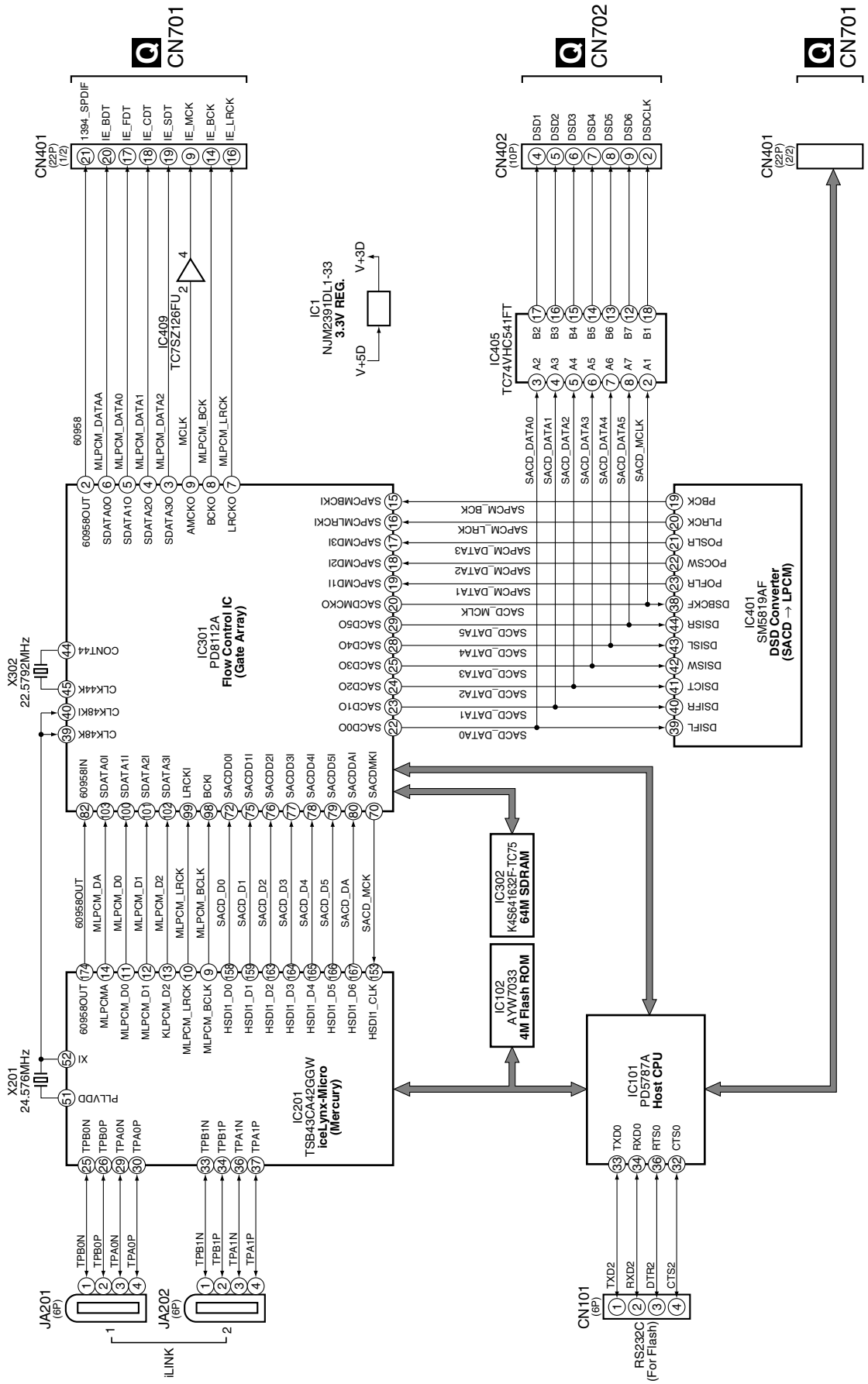
3.1.2 DSP BLOCK DIAGRAM



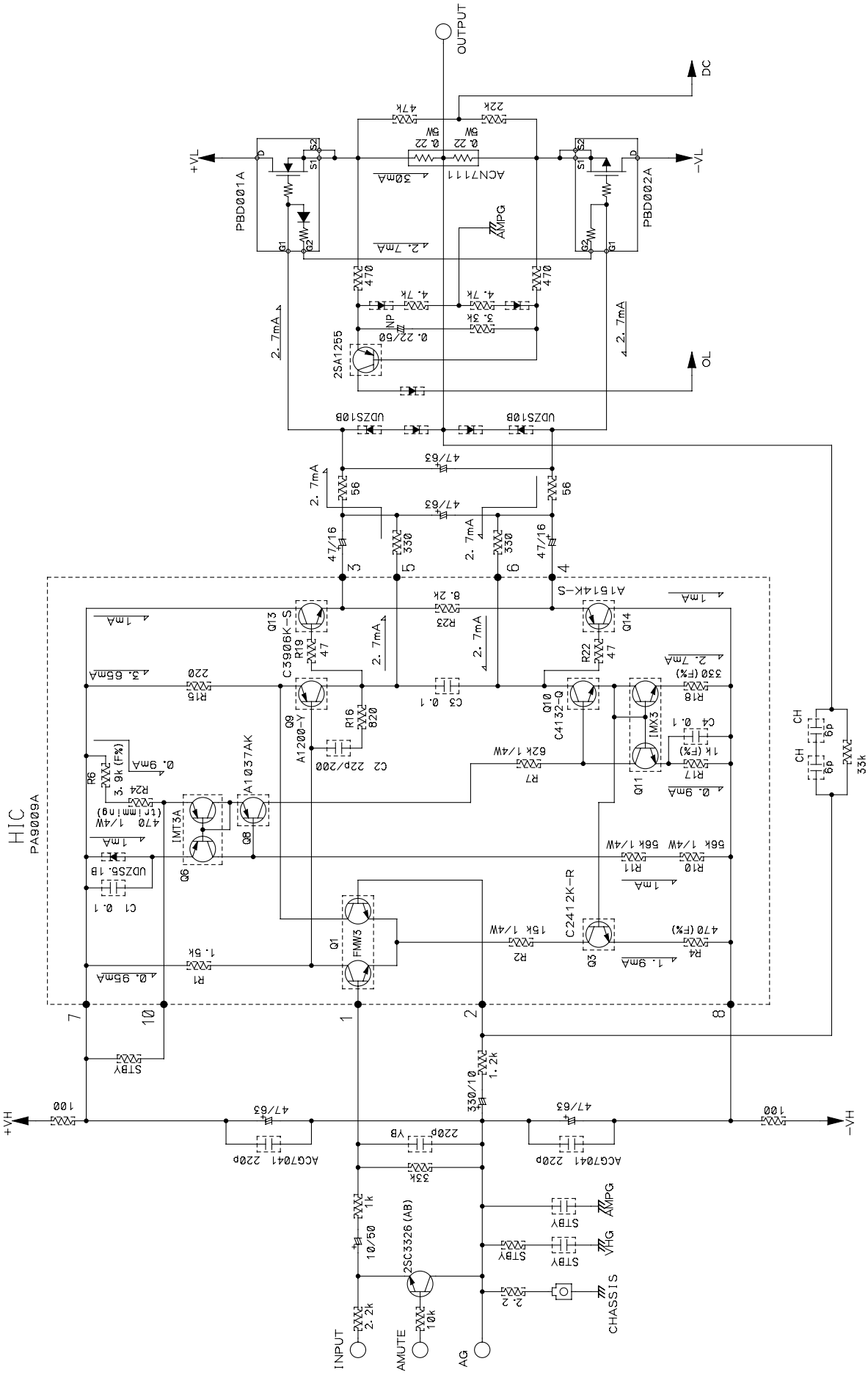

CLOCK LINE
DATA LINE
IC501
AK4383VT
IC601
NJM4565MD
LPF AMP
IC681
NJM4565MD
MIX AMP
Q682
2SK208
SW
Q681
2SK208
SW
IC521 AK4383VT
IC621
NJM4565MD
LPF AMP
IC503
TC7SH04FU
BUFFER
IC451
IS61LV6416-12T
SRAM
IC471
IS63LV1024-12T
PPROM
CN601
(21P)
CN301
FLO
FRO
SWO
CO
SLO
SRO
SBLO
SBRO
IC541 AK4383VT
IC641
NJM4565MD
LPF AMP
DA3
DA2
DA1
DA0
IC401
DSPC56367PV150
PPP
DSP2
BICK
LRCK
IC561 AK4382AVT
IC661
NJM4565MD
LPF AMP
MCLK
BICK
LRCK
SDTI
DSDL
DSDR
DCLK
DA
OUT+
OUT−
FL
FR
SW
C
SL
SR
SBL
SBR
SS
DD
G

3.1.3 1394 BLOCK DIAGRAM

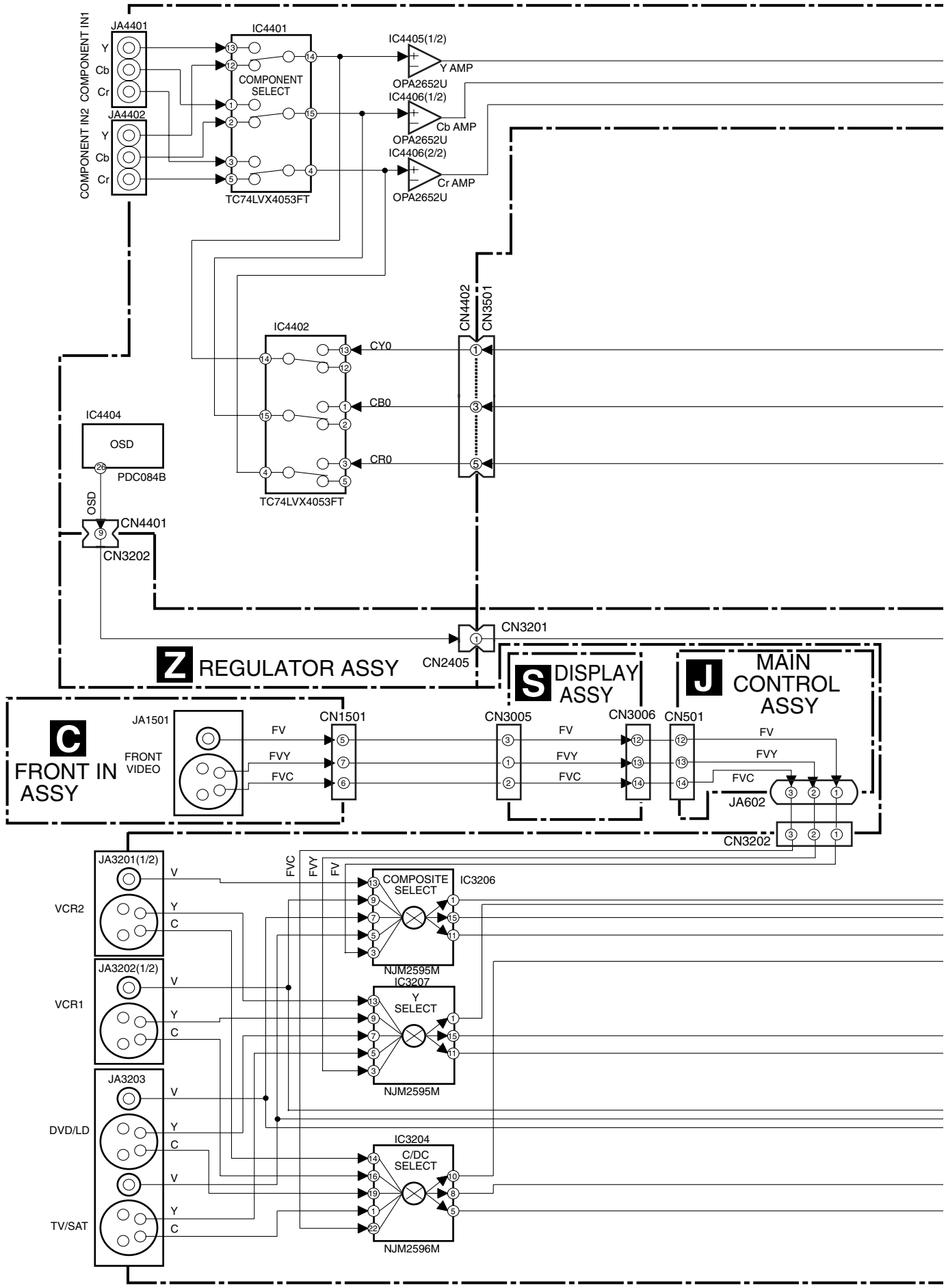
R 1394 ASSY

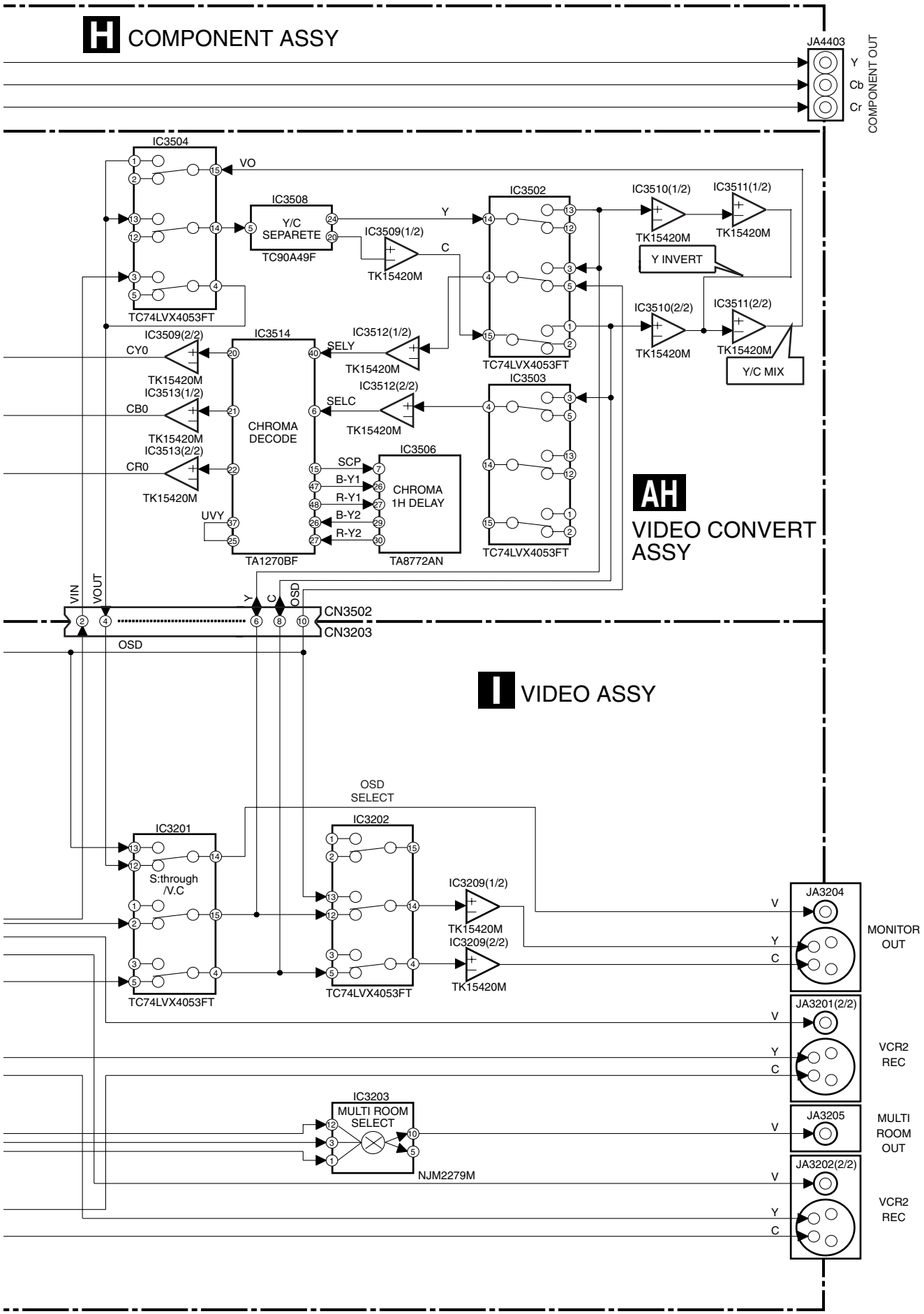


3.1.4 POWER AMP BLOCK DIAGRAM

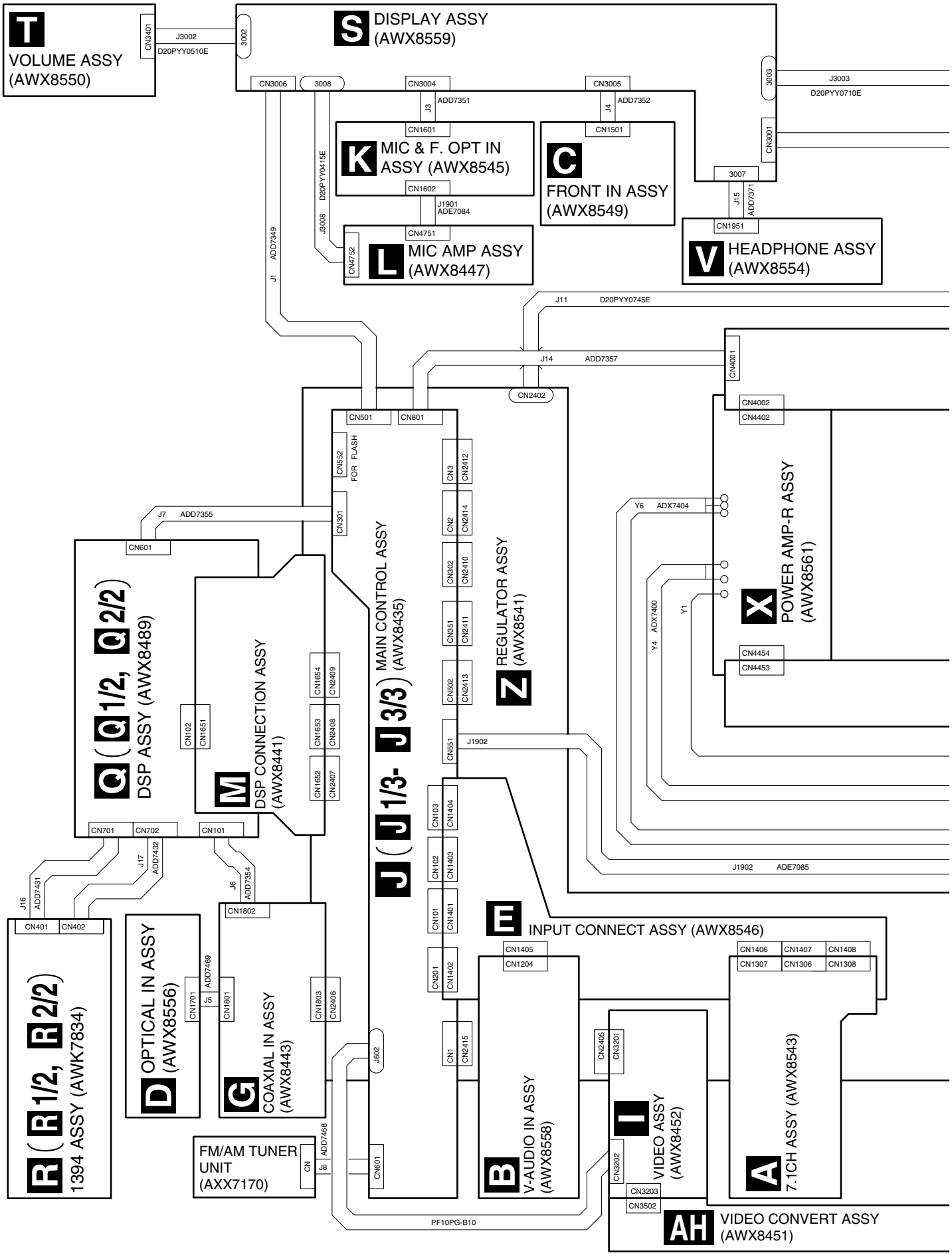


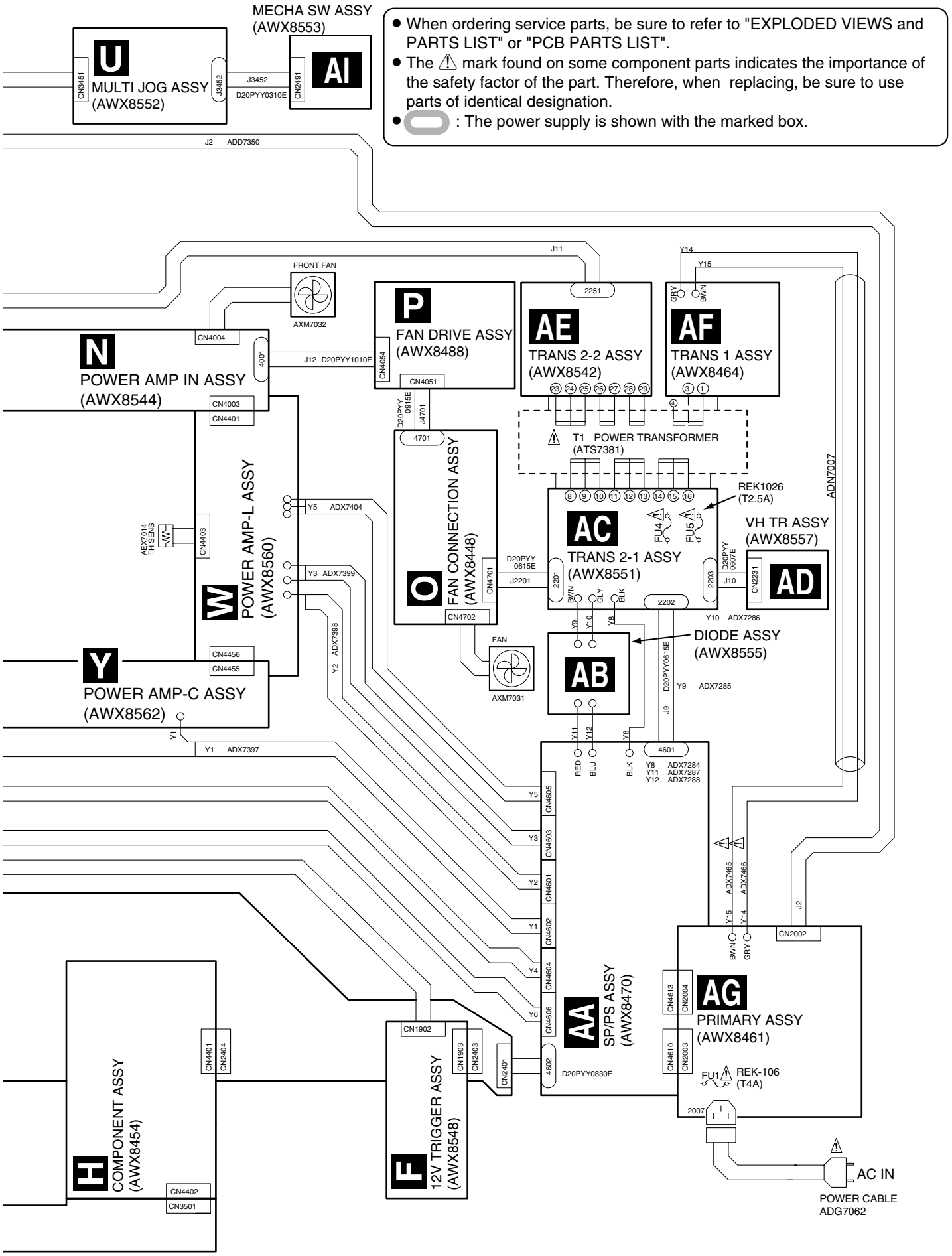
3.1.5 VIDEO BLOCK DIAGRAM



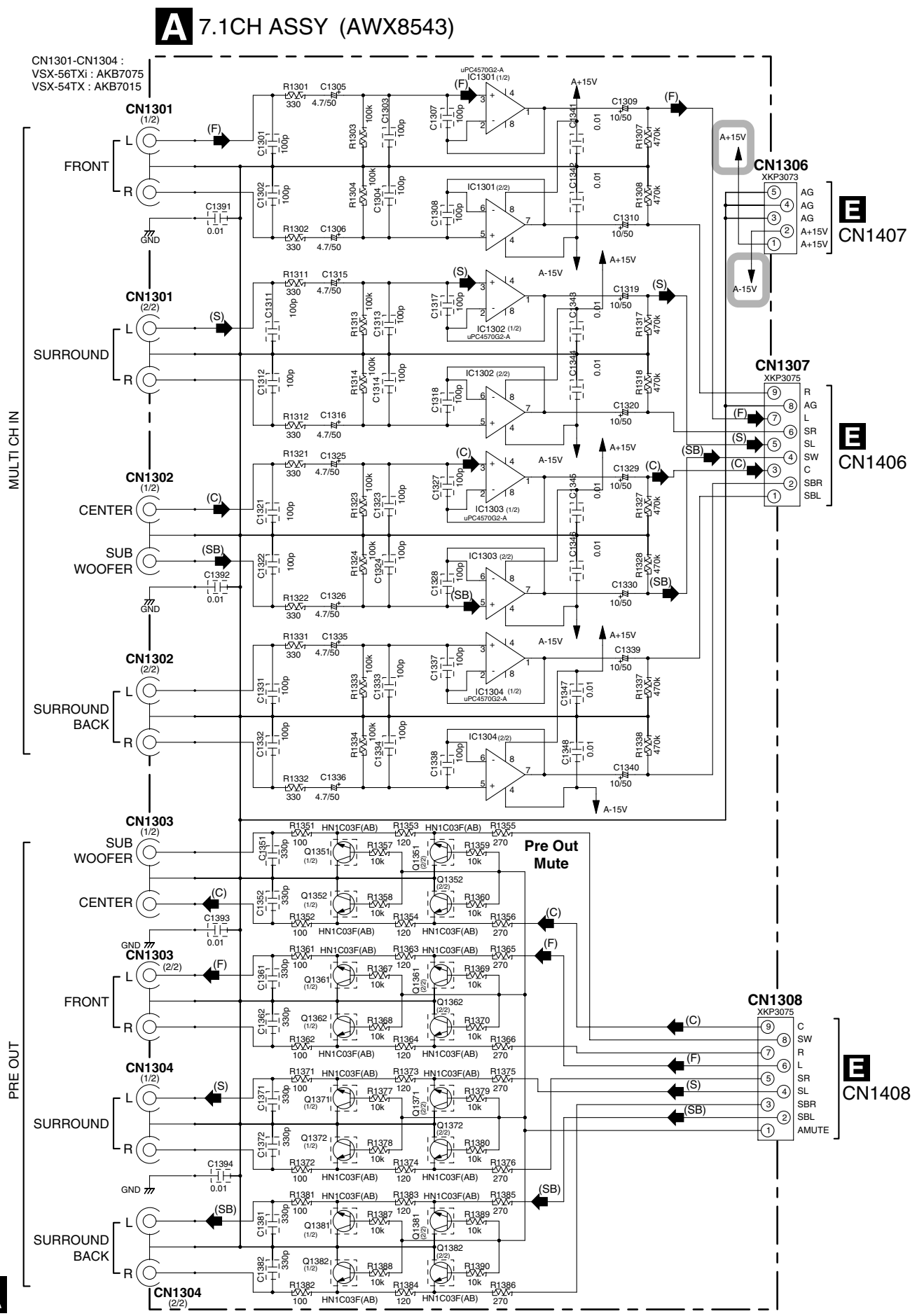

H COMPONENT ASSY
JA4403
Y
Cb
Cr
COMPONENT OUT
IC3504
VO
IC3508
Y/C SEPARETE
TC90A49F
IC3509(1/2)
TK15420M
Y
C
IC3502
IC3510(1/2)
IC3511(1/2)
TK15420M
TK15420M
Y INVERT
IC3510(2/2)
IC3511(2/2)
TK15420M
TK15420M
Y/C MIX
TC74LVX4053FT
IC3509(2/2)
CY0
TK15420M
IC3513(1/2)
CB0
TK15420M
IC3513(2/2)
CR0
TK15420M
IC3514
CHROMA DECODE
UVY
TA1270BF
IC3512(1/2)
SELY
TK15420M
IC3512(2/2)
SELC
TK15420M
IC3503
TC74LVX4053FT
IC3506
SCP
B-Y1
R-Y1
B-Y2
R-Y2
CHROMA 1H DELAY
TA8772AN
AH
VIDEO CONVERT ASSY
VIN
VOUT
Y
C
OSD
CN3502
CN3203
OSD
I VIDEO ASSY
OSD SELECT
IC3201
S:through /V.C
TC74LVX4053FT
IC3202
TC74LVX4053FT
IC3209(1/2)
TK15420M
IC3209(2/2)
TK15420M
JA3204
V
Y
C
MONITOR OUT
JA3201(2/2)
V
Y
C
VCR2 REC
IC3203
MULTI ROOM SELECT
NJM2279M
JA3205
V
MULTI ROOM OUT
JA3202(2/2)
V
Y
C
VCR2 REC

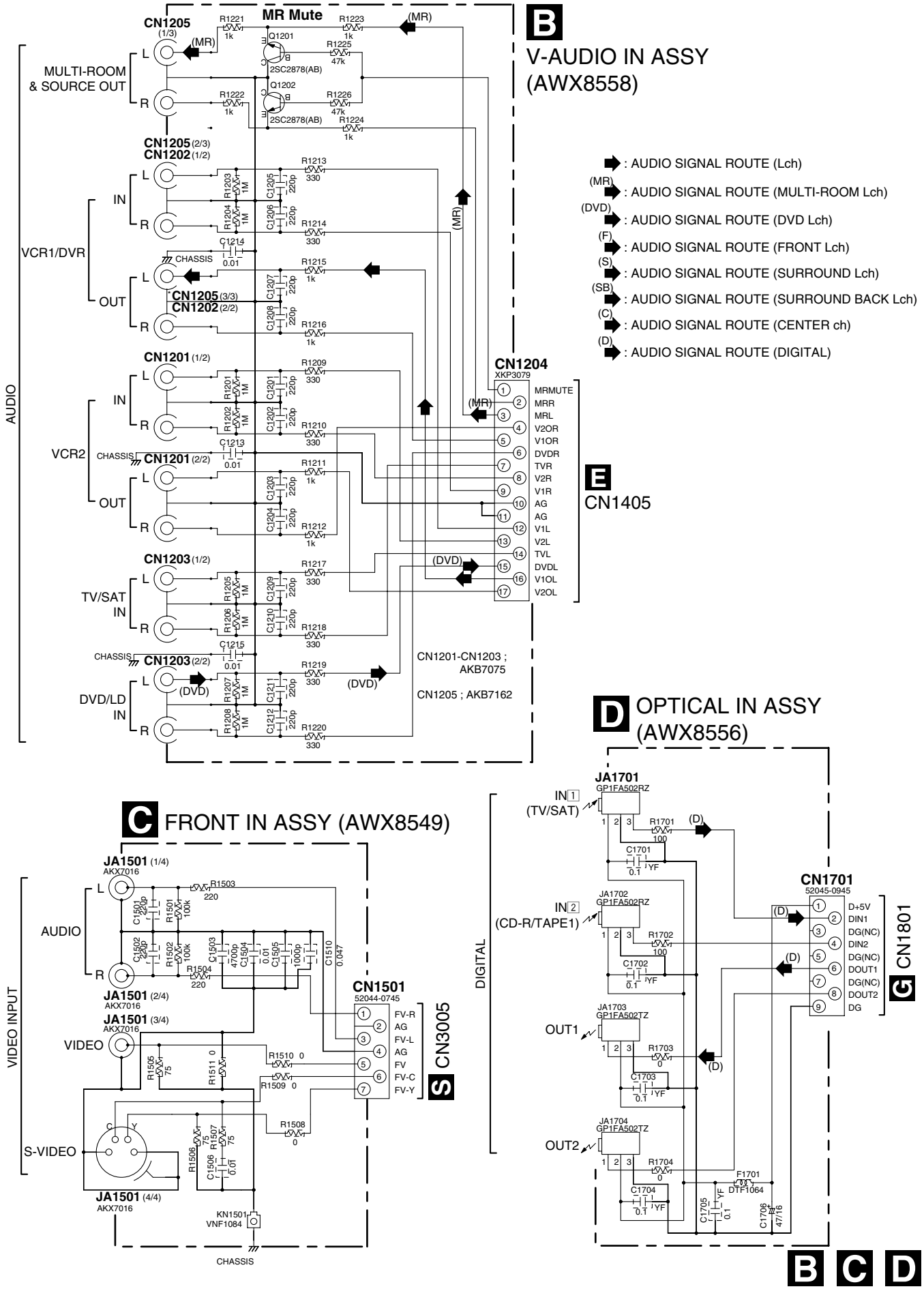
3.2 OVERALL WIRING DIAGRAM



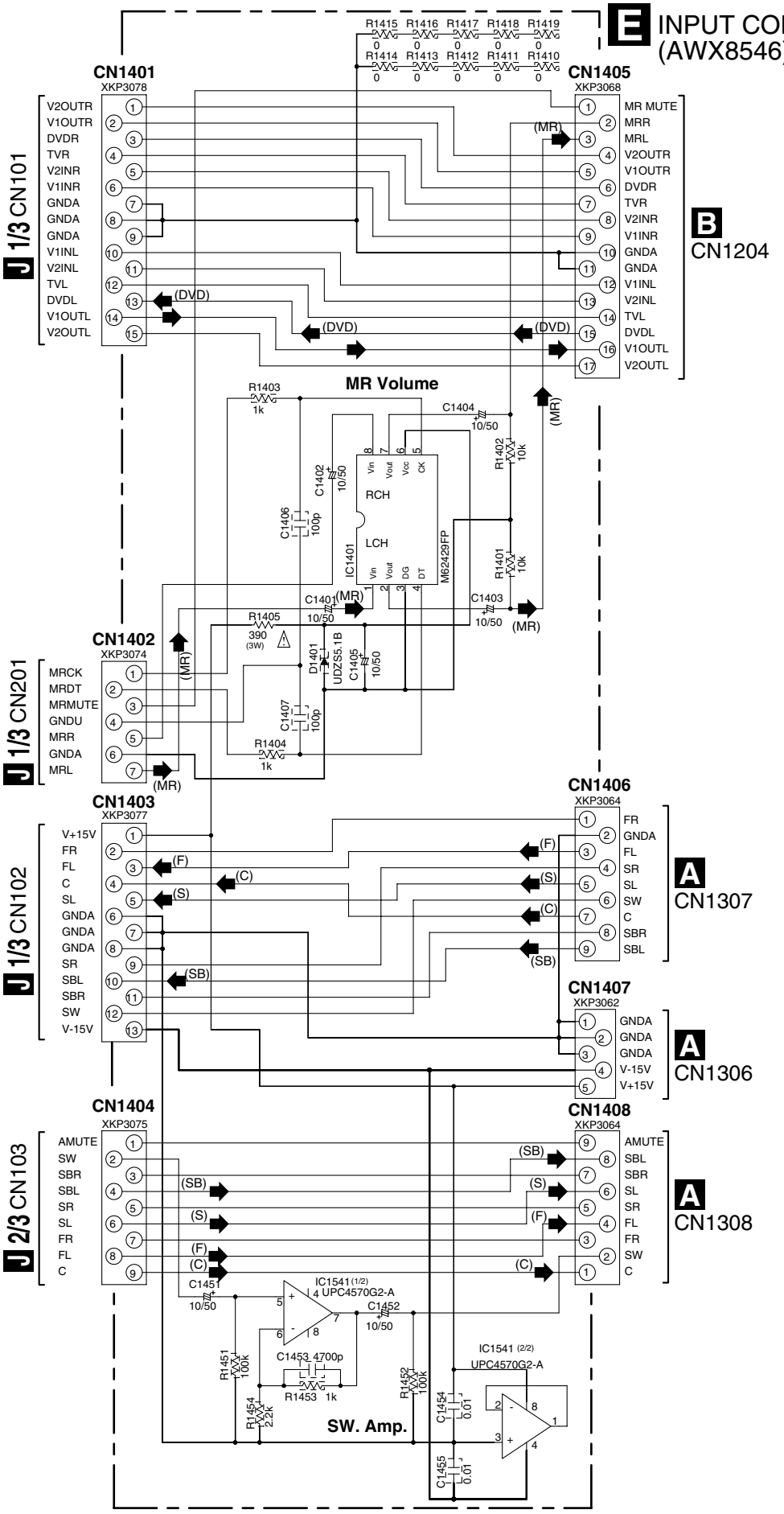

MECHA SW ASSY
(AWX8553)
U
MULTI JOG ASSY
(AWX8552)
CN3451
J3452
D20PYY0310E
CN2491
AI
When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
: The power supply is shown with the marked box.
J2 ADD7350
J11
FRONT FAN
AXM7032
CN4004
4001
J12 D20PYY1010E
CN4054
P
FAN DRIVE ASSY
(AWX8488)
CN4051
D20PY 0915E
J4701
4701
2251
AE
TRANS 2-2 ASSY
(AWX8542)
23 24 25 26 27 28 29
Y14
Y15
GRY
BWN
AF
TRANS 1 ASSY
(AWX8464)
3 1
4
T1 POWER TRANSFORMER
(ATS7381)
ADN7007
N
POWER AMP IN ASSY
(AWX8544)
CN4003
CN4401
8 9 10 11 12 13 14 15 16
REK1026
(T2.5A)
FU4
FU5
AC
TRANS 2-1 ASSY
(AWX8551)
VH TR ASSY
(AWX8557)
AD
D20PYY 0607E
J10
CN2231
2203
2201
D20PYY 0615E
J2201
CN4701
BWN
GLY
BLK
2202
Y10 ADX7286
AEX7014
TH SENS
CN4403
W
POWER AMP-L ASSY
(AWX8560)
Y5 ADX7404
Y3 ADX7399
Y2 ADX7398
O
FAN CONNECTION ASSY
(AWX8448)
CN4702
FAN
AXM7031
AB
DIODE ASSY
(AWX8555)
Y9 Y10 Y8
D20PYY0615E
J9
Y9 ADX7285
Y
POWER AMP-C ASSY
(AWX8562)
CN4456
CN4455
Y1
Y1 ADX7397
Y11 Y12 Y8
4601
RED BLU BLK
Y8 ADX7284
Y11 ADX7287
Y12 ADX7288
Y5
Y3
Y2
Y1
Y4
Y6
CN4605
CN4603
CN4601
CN4602
CN4604
CN4606
AA
SP/PS ASSY
(AWX8470)
4602
D20PYY0830E
ADX7465
ADX7466
Y15
Y14
J2
CN2002
BWN
GRY
CN4613
CN2004
CN4610
CN2003
AG
PRIMARY ASSY
(AWX8461)
FU1 REK-106
(T4A)
2007
AC IN
POWER CABLE
ADG7062
H
COMPONENT ASSY
(AWX8454)
CN4401
CN2404
CN4402
CN3501
CN1902
CN1903
CN2403
CN2401
F
12V TRIGGER ASSY
(AWX8548)

3.3 7.1 CH I/O, V-AUDIO IN, FRONT IN and OPTICAL IN ASSYS

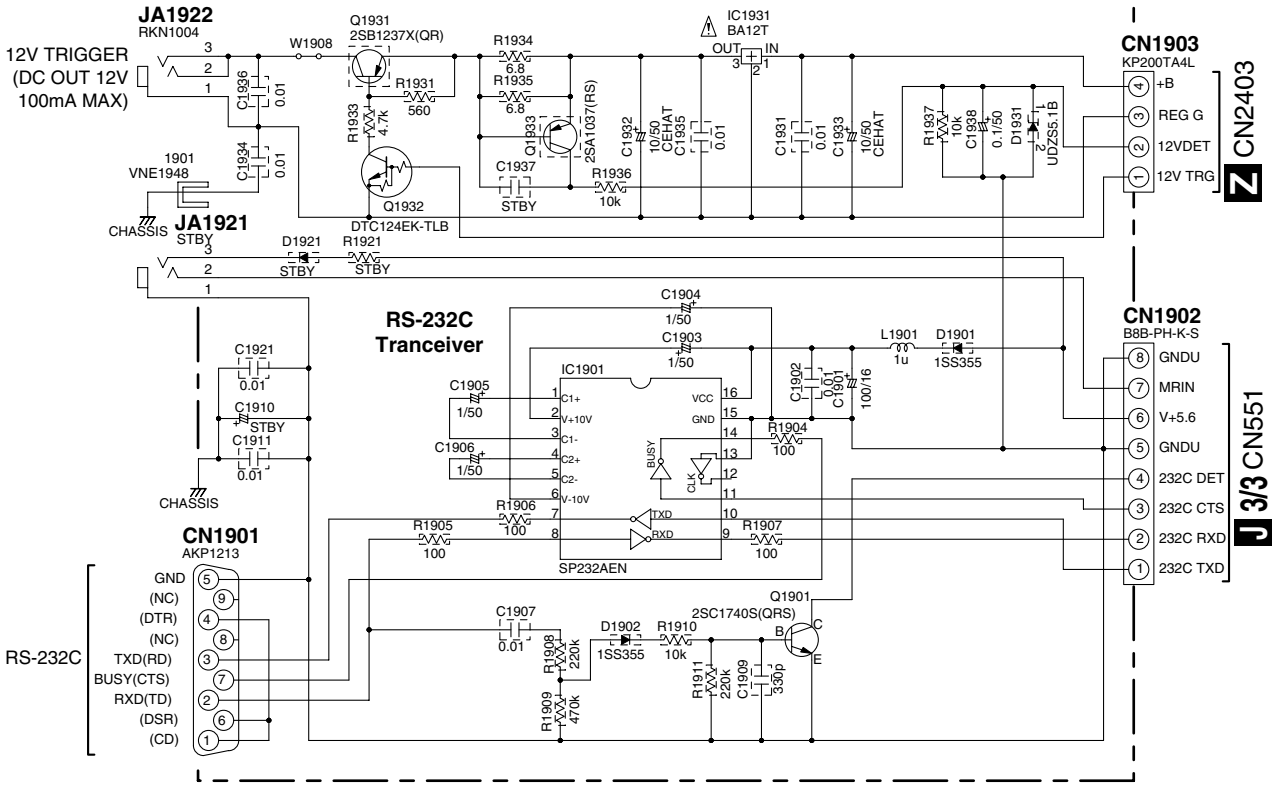



B
V-AUDIO IN ASSY
(AWX8558)
: AUDIO SIGNAL ROUTE (Lch)
(MR) : AUDIO SIGNAL ROUTE (MULTI-ROOM Lch)
(DVD) : AUDIO SIGNAL ROUTE (DVD Lch)
(F) : AUDIO SIGNAL ROUTE (FRONT Lch)
(S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)
(D) : AUDIO SIGNAL ROUTE (DIGITAL)
MR Mute
CN1205 (1/3)
MULTI-ROOM & SOURCE OUT
CN1205 (2/3)
CN1202 (1/2)
VCR1/DVR
CN1205 (3/3)
CN1202 (2/2)
CN1201 (1/2)
VCR2
CN1201 (2/2)
CN1203 (1/2)
TV/SAT IN
CN1203 (2/2)
DVD/LD IN
AUDIO
CHASSIS
Q1201
Q1202
2SC2878(AB)
CN1204
XKP3079
MRMUTE
MRR
MRL
V2OR
V1OR
DVDR
TVR
V2R
V1R
AG
AG
V1L
V2L
TVL
DVDL
V1OL
V2OL
E
CN1405
CN1201-CN1203 ; AKB7075
CN1205 ; AKB7162
C FRONT IN ASSY (AWX8549)
JA1501 (1/4)
AKX7016
JA1501 (2/4)
JA1501 (3/4)
JA1501 (4/4)
VIDEO INPUT
AUDIO
VIDEO
S-VIDEO
CN1501
52044-0745
FV-R
AG
FV-L
AG
FV
FV-C
FV-Y
S
CN3005
KN1501
VNF1084
D OPTICAL IN ASSY
(AWX8556)
JA1701
GP1FA502RZ
IN 1 (TV/SAT)
JA1702
GP1FA502RZ
IN 2 (CD-R/TAPE1)
JA1703
GP1FA502TZ
OUT1
JA1704
GP1FA502TZ
OUT2
DIGITAL
CN1701
52045-0945
D+5V
DIN1
DG(NC)
DIN2
DG(NC)
DOUT1
DG(NC)
DOUT2
DG
G
CN1801
F1701
DTF1064
B C D

3.4 INPUT CONNECT and 12V TRIGGER ASSYS



F 12V TRIGGER ASSY (AWX8548)



: AUDIO SIGNAL ROUTE (Lch)

(MR) : AUDIO SIGNAL ROUTE (MULTI-ROOM Lch)

(DVD) : AUDIO SIGNAL ROUTE (DVD Lch)

(F) : AUDIO SIGNAL ROUTE (FRONT Lch)

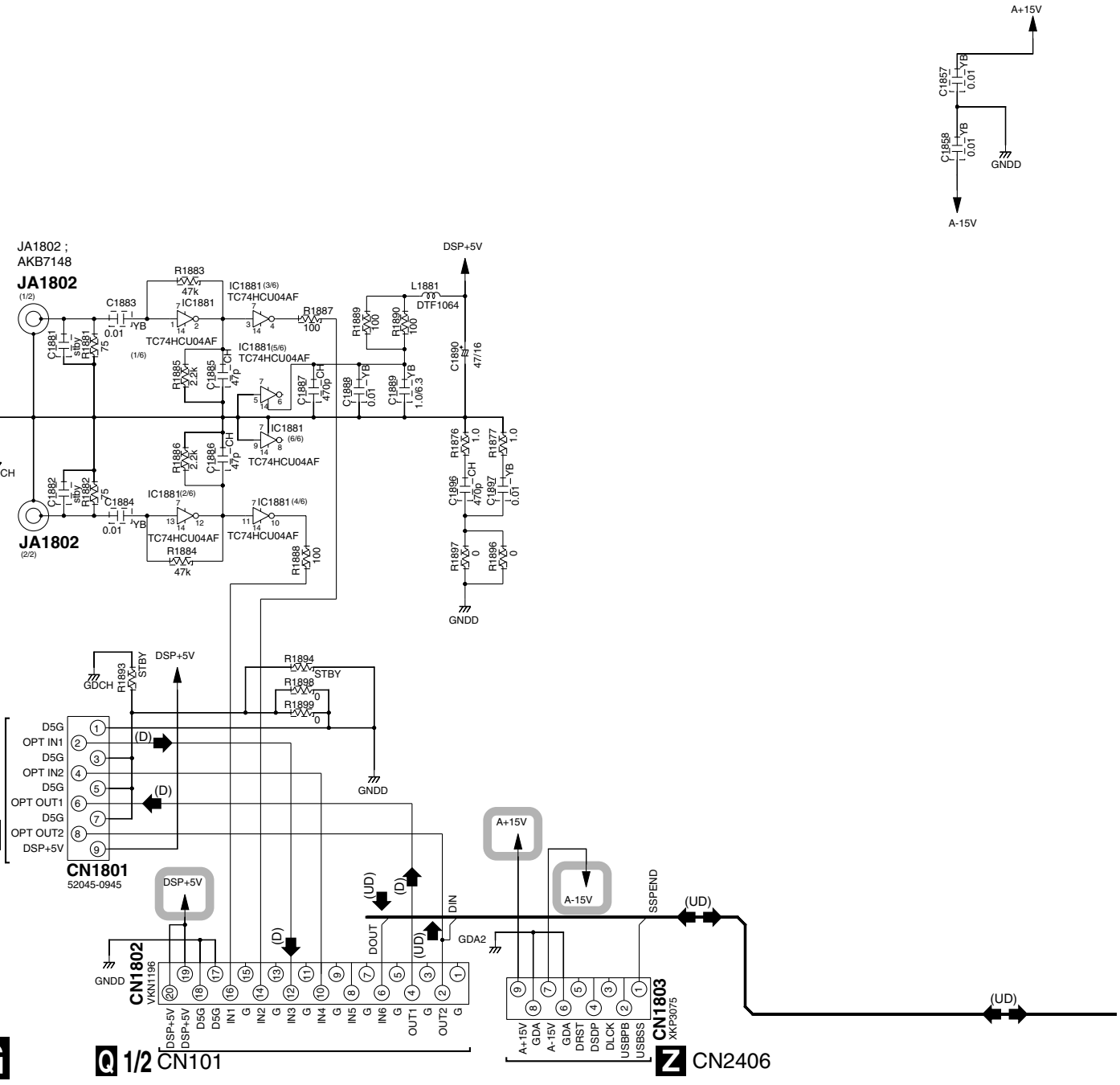
(S) : AUDIO SIGNAL ROUTE (SURROUND Lch)

(SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)

(C) : AUDIO SIGNAL ROUTE (CENTER ch)

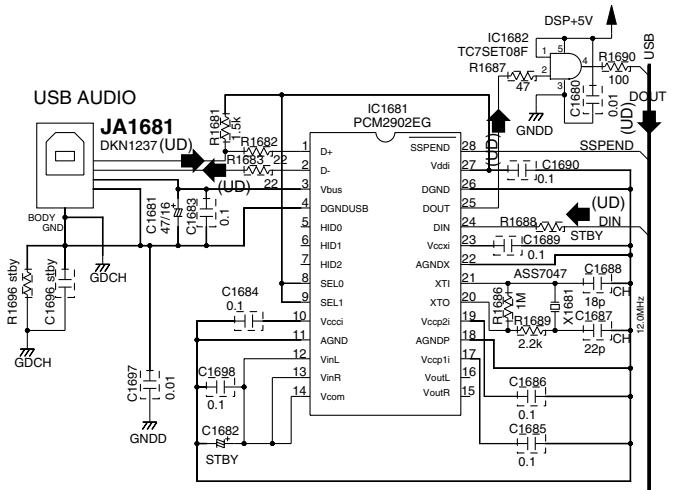
3.5 COAXIAL IN ASSY

G COAXIAL IN ASSY (AWX8443)



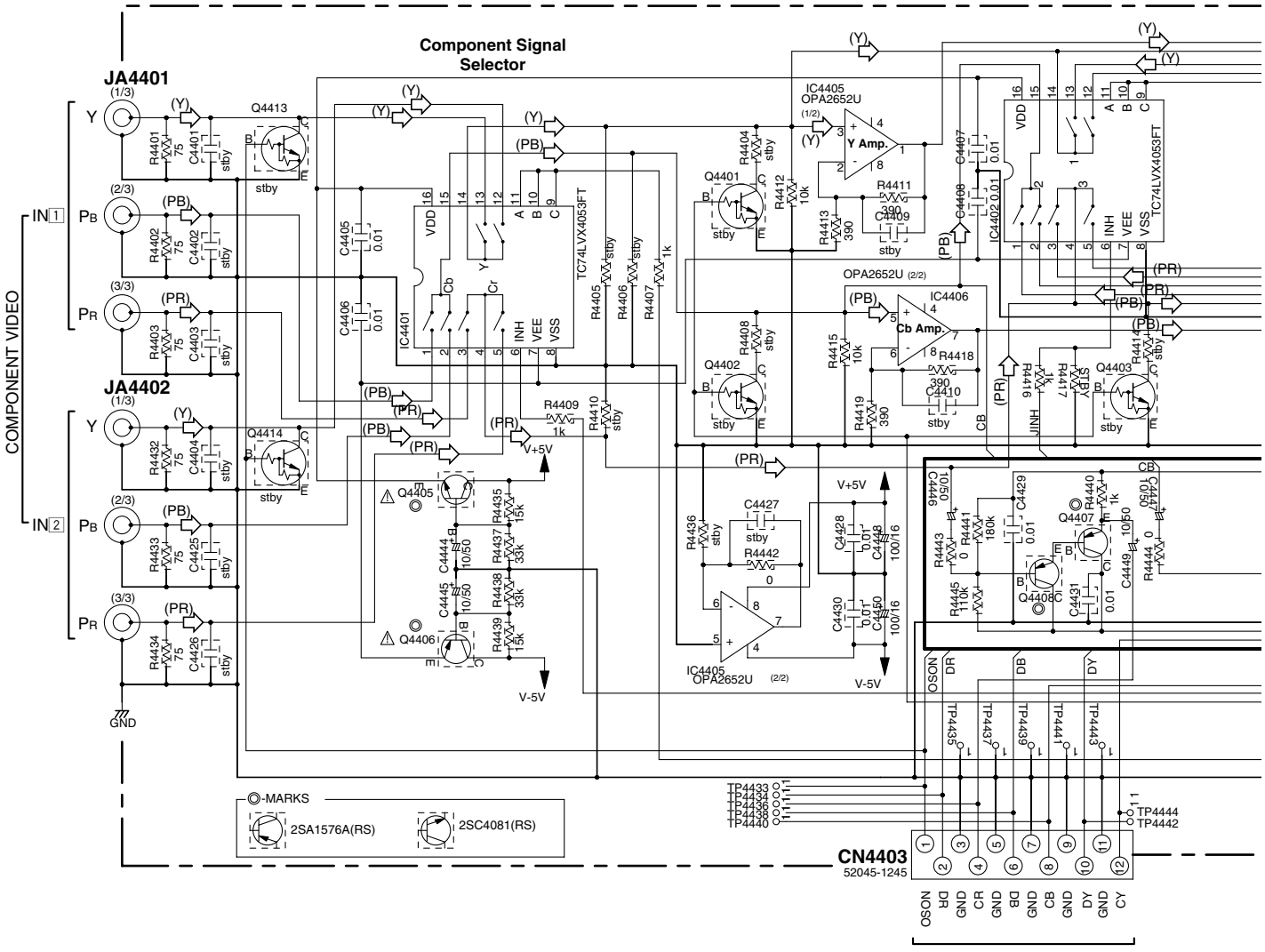
(D) : AUDIO SIGNAL ROUTE (DIGITAL)

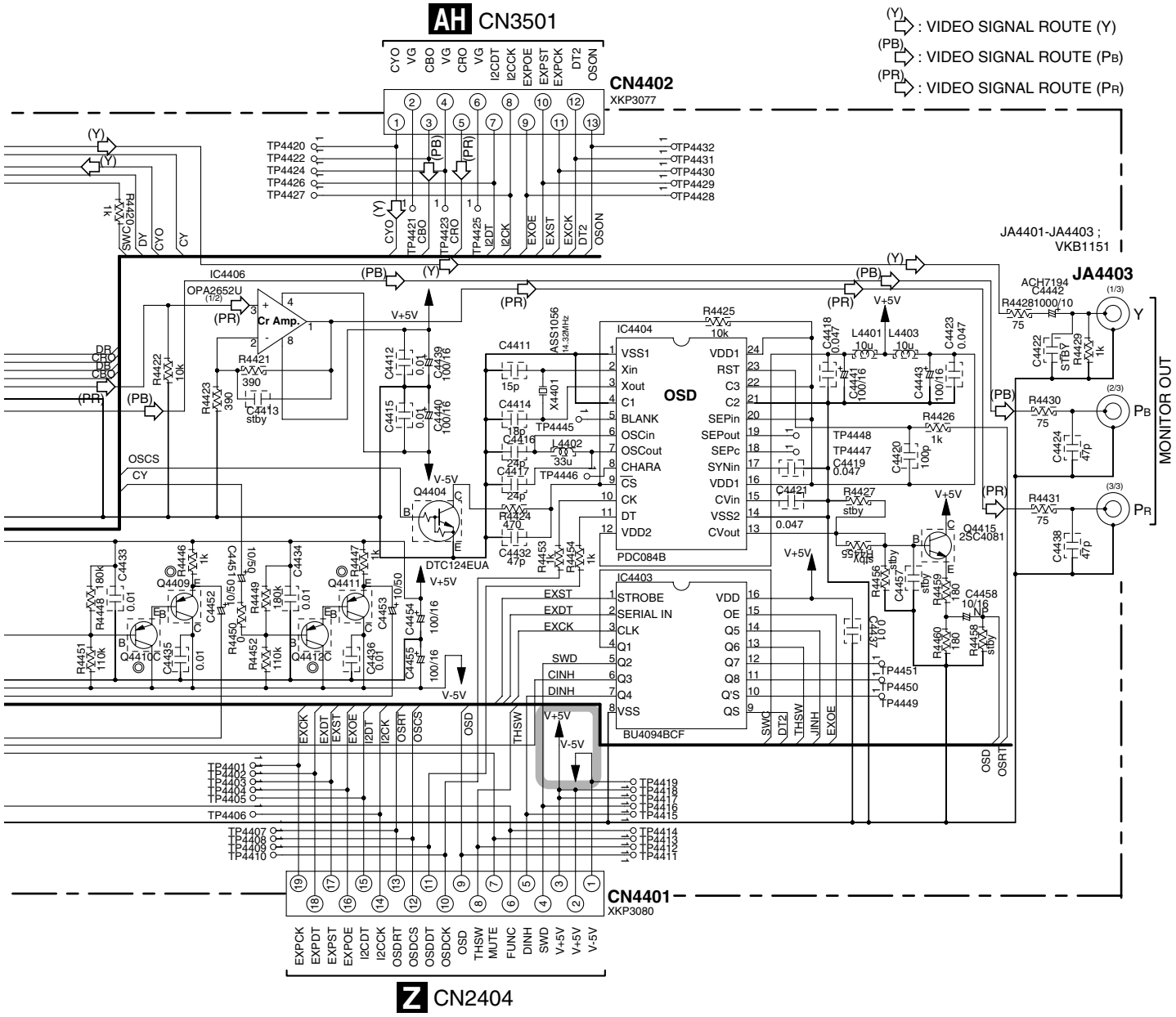
(UD) : AUDIO SIGNAL ROUTE (USB DIGITAL)



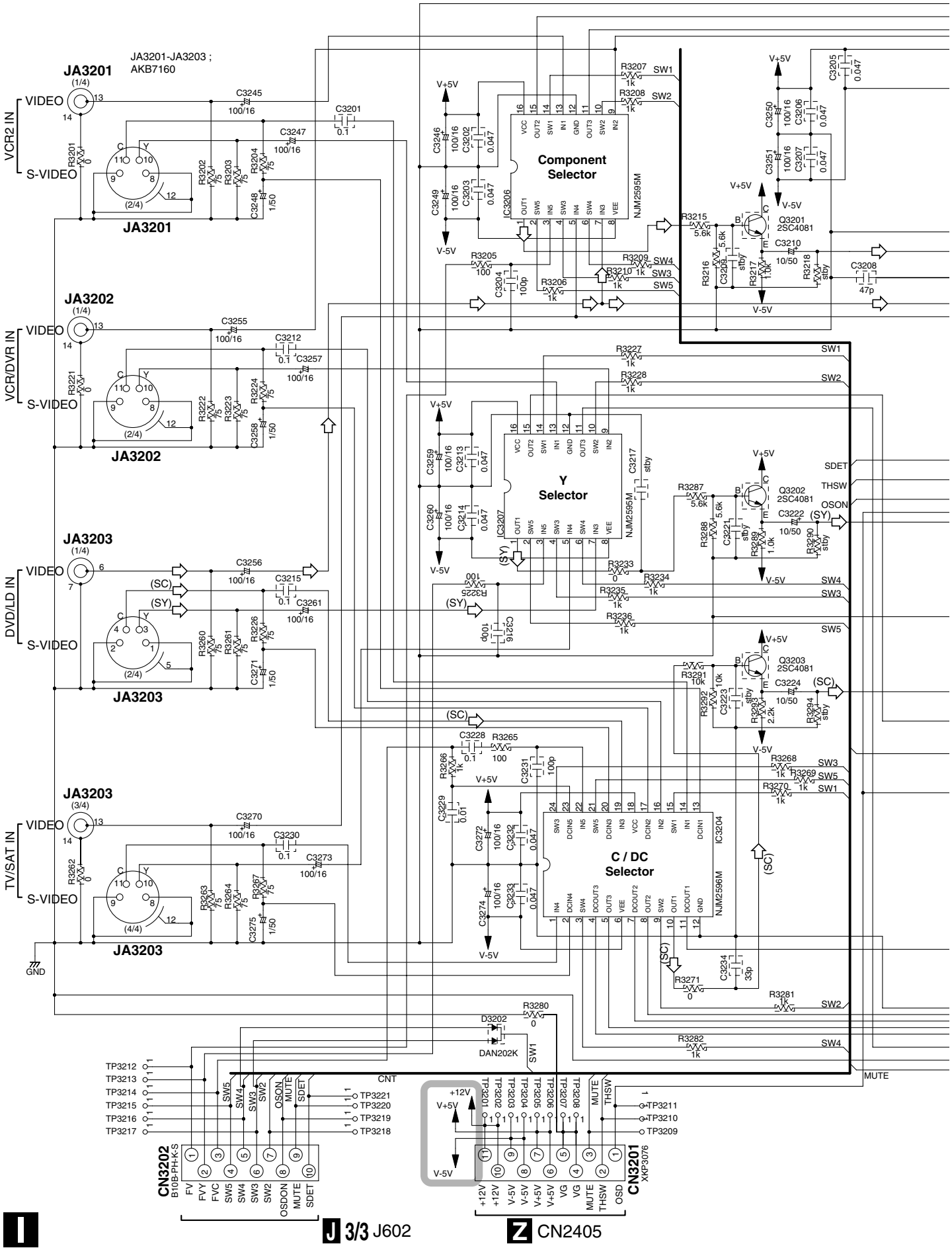
3.6 COMPONENT ASSY

H COMPONENT ASSY (AWX8454)

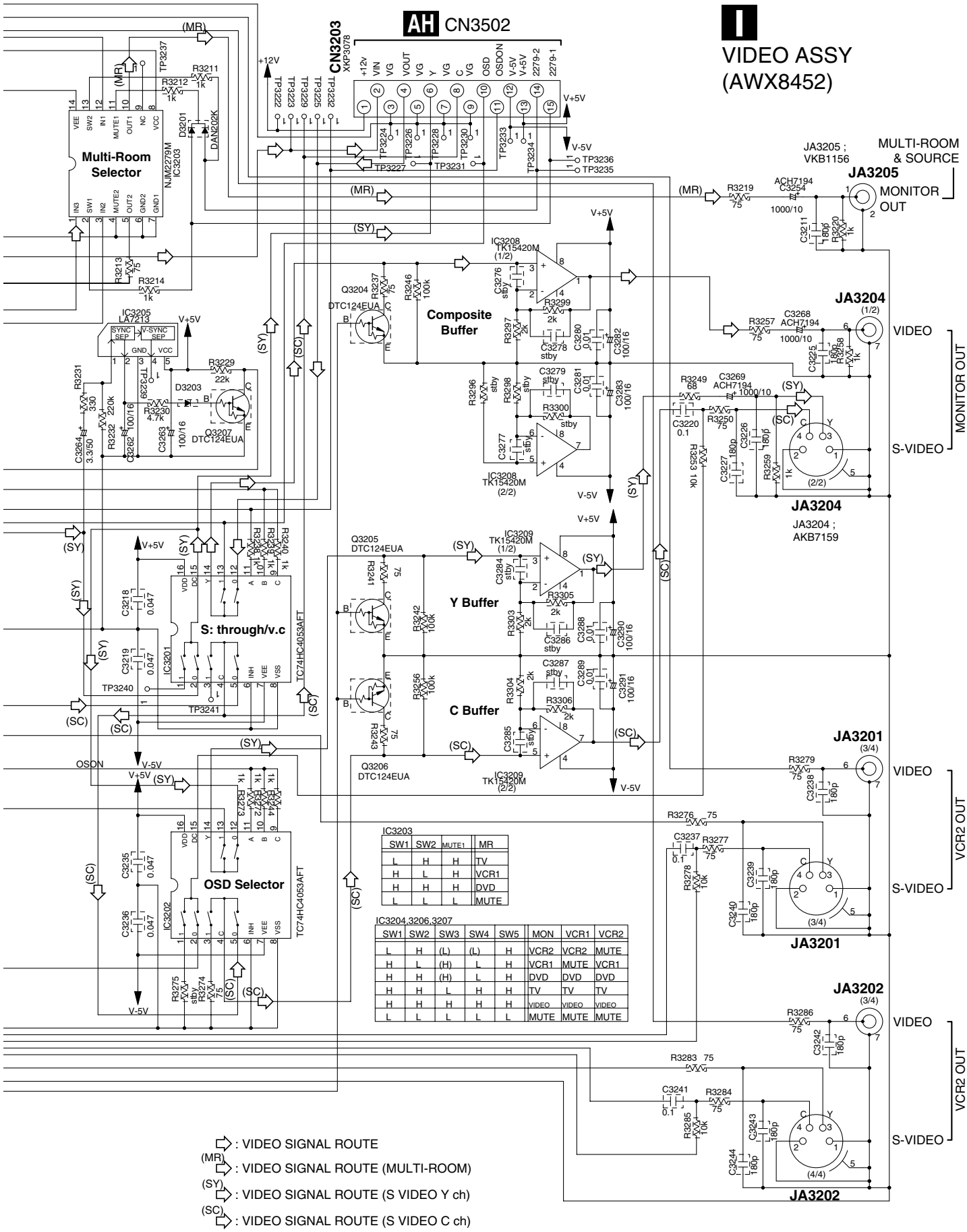



AH CN3501
CN4402
XKP3077
(Y) : VIDEO SIGNAL ROUTE (Y)
(PB) : VIDEO SIGNAL ROUTE (PB)
(PR) : VIDEO SIGNAL ROUTE (PR)
JA4401-JA4403 ; VKB1151
JA4403
MONITOR OUT
IC4406
OPA2652U
Cr Amp.
IC4404
OSD
PDC084B
IC4403
BU4094BCF
DTC124EUA
CN4401
XKP3080
Z CN2404

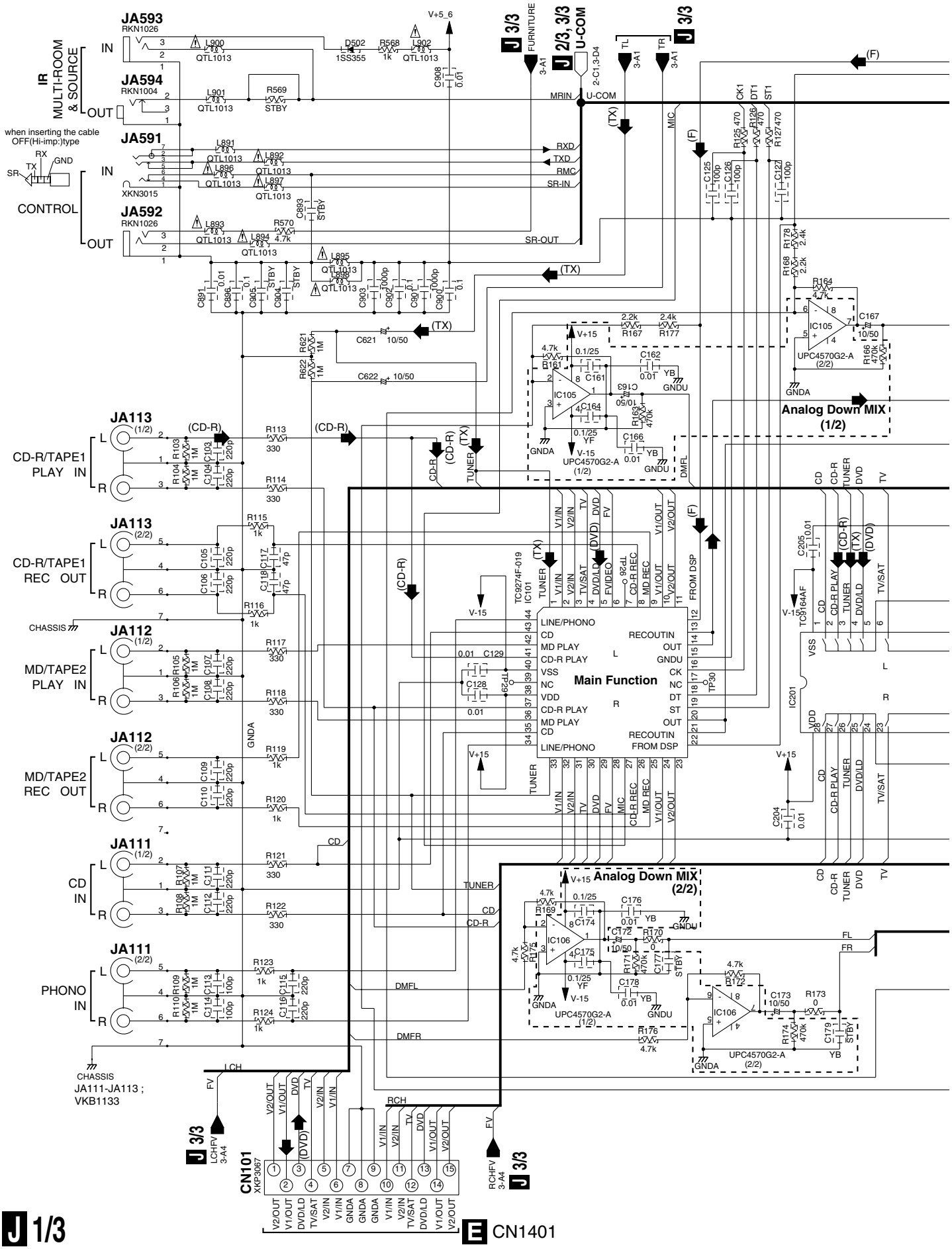
3.7 VIDEO ASSY



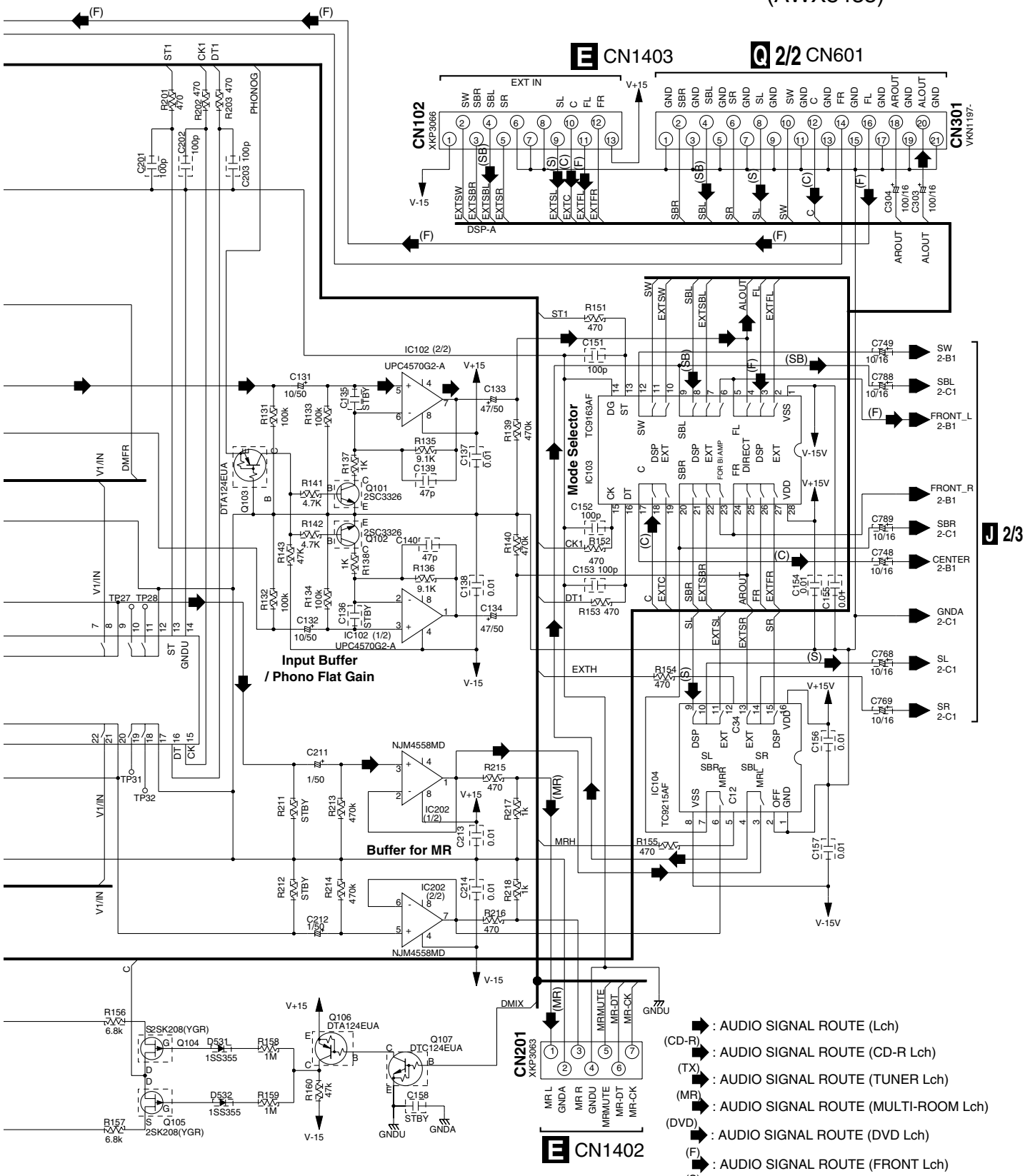
I VIDEO ASSY (AWX8452)



3.8 MAIN CONTROL ASSY (1/3)



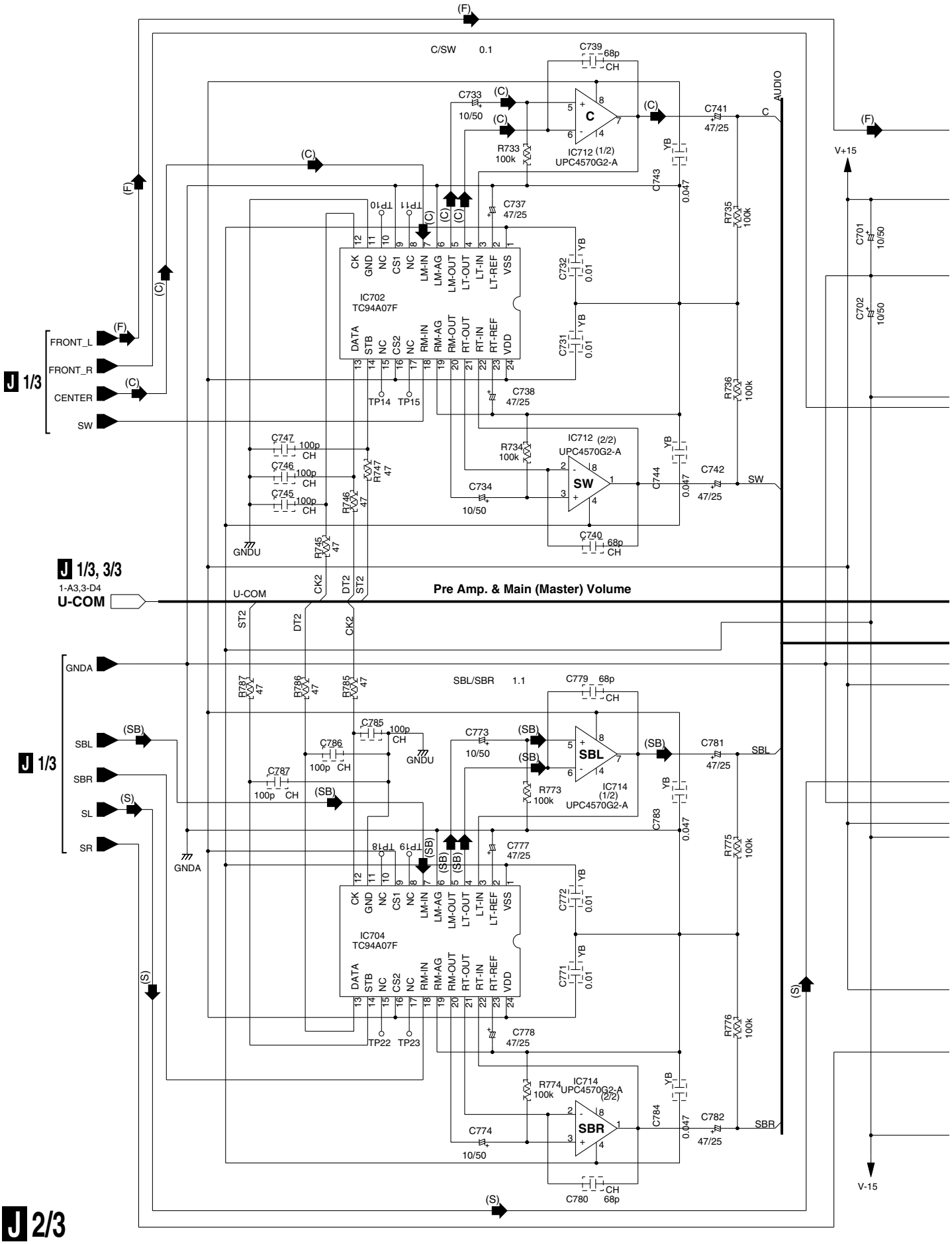
J 1/3 MAIN CONTROL ASSY (AWX8435)



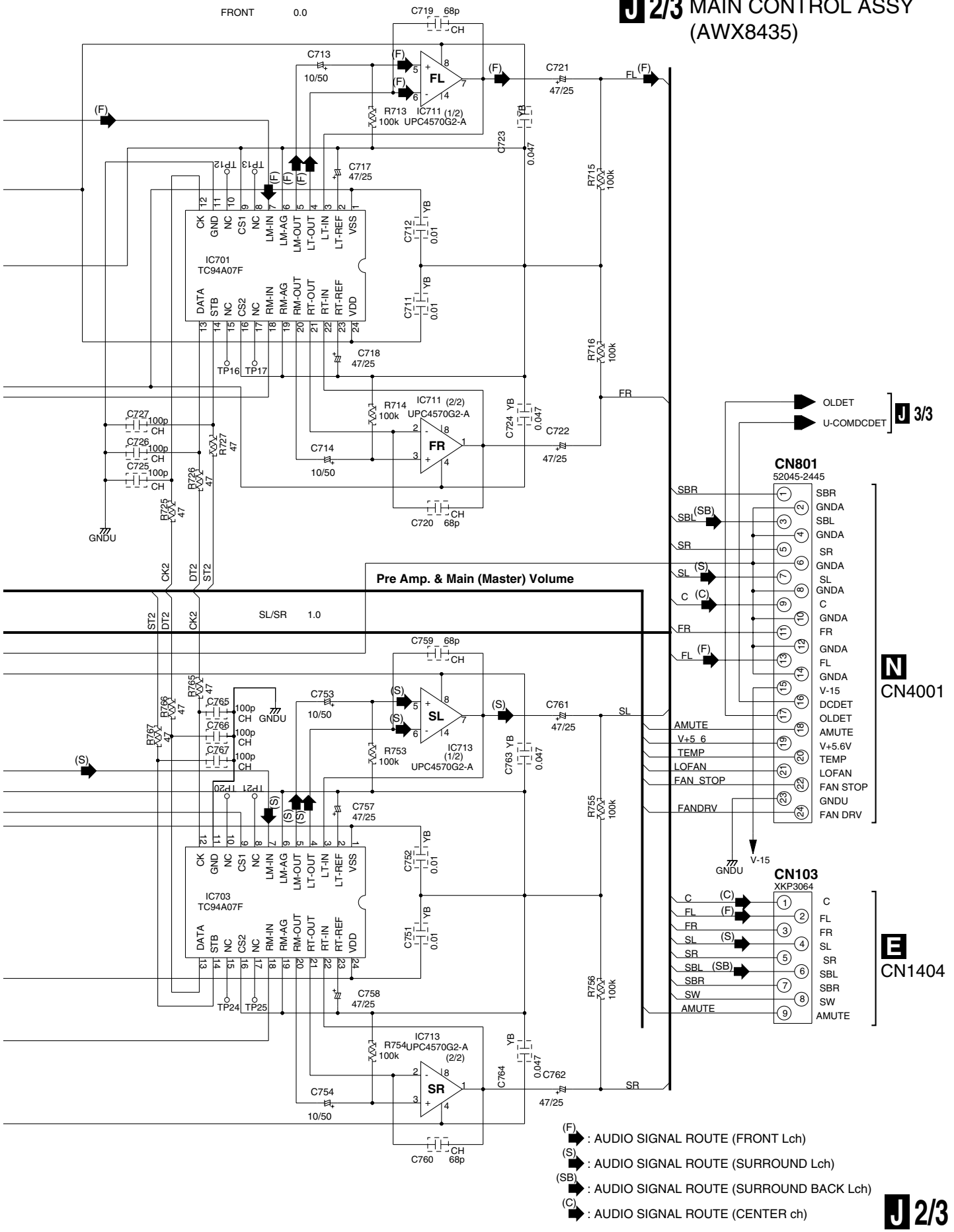
: AUDIO SIGNAL ROUTE (Lch)
(CD-R) : AUDIO SIGNAL ROUTE (CD-R Lch)
(TX) : AUDIO SIGNAL ROUTE (TUNER Lch)
(MR) : AUDIO SIGNAL ROUTE (MULTI-ROOM Lch)
(DVD) : AUDIO SIGNAL ROUTE (DVD Lch)
(F) : AUDIO SIGNAL ROUTE (FRONT Lch)
(S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)

J 1/3

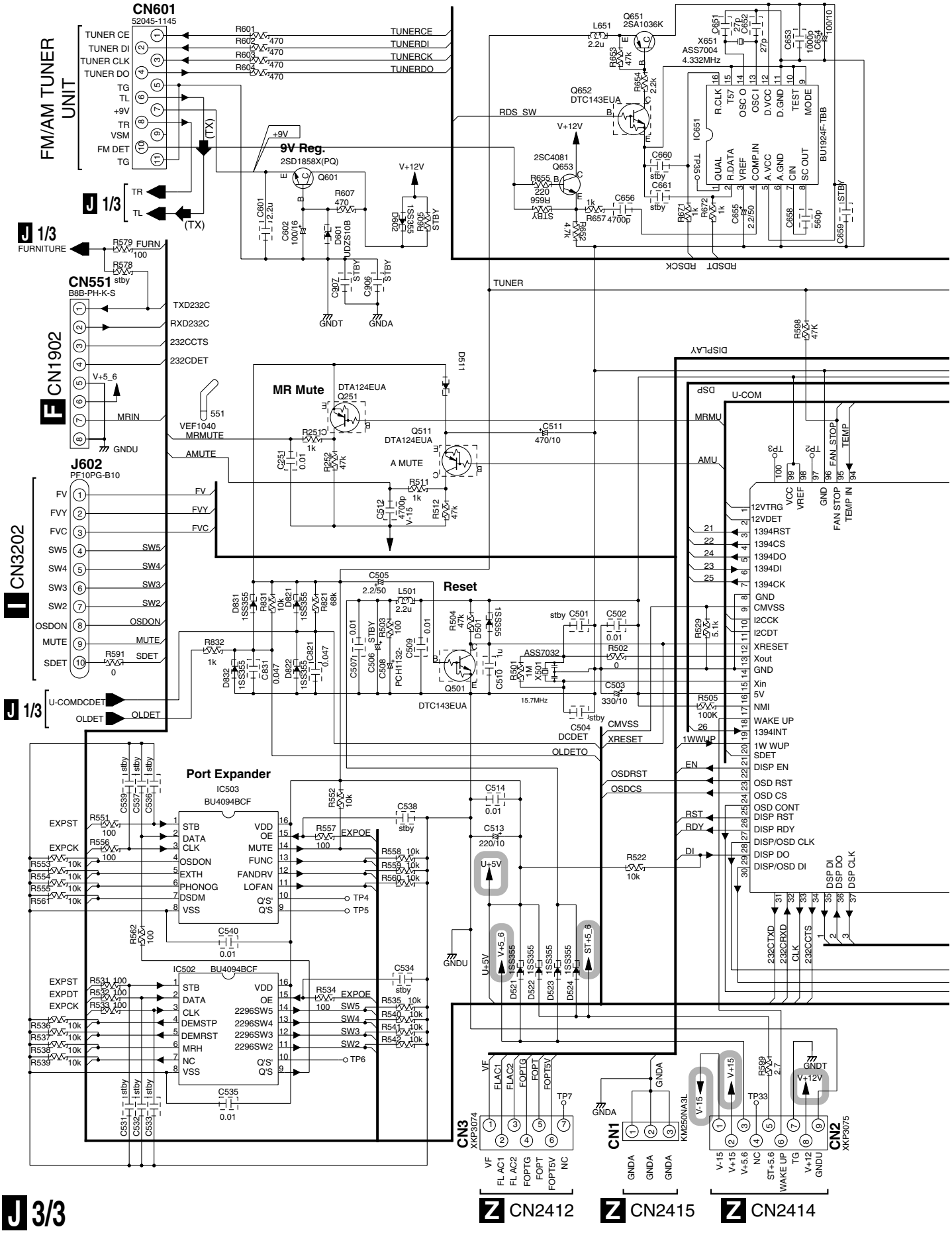
3.9 MAIN CONTROL ASSY (2/3)



J 2/3 MAIN CONTROL ASSY (AWX8435)

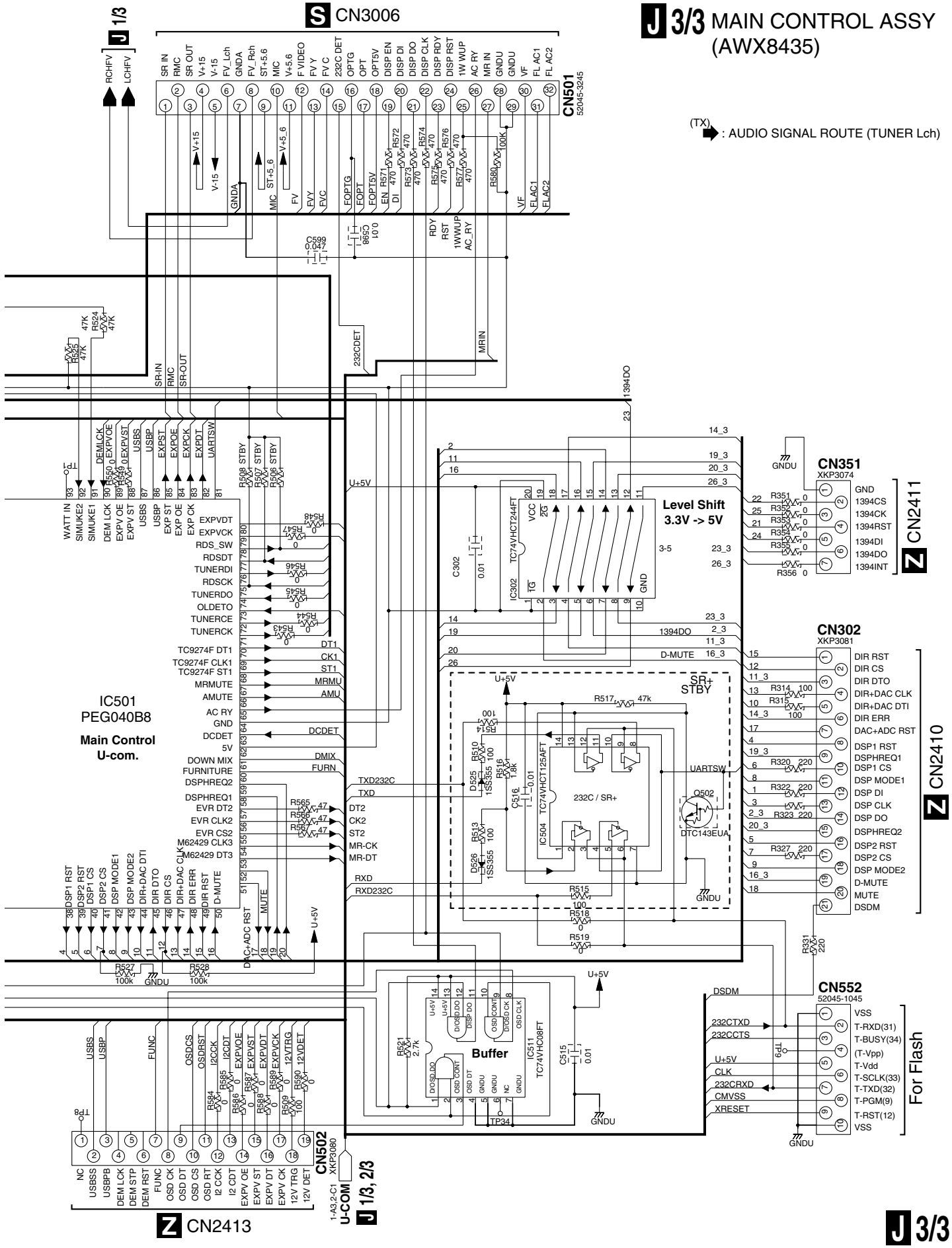


3.10 MAIN CONTROL ASSY (3/3)

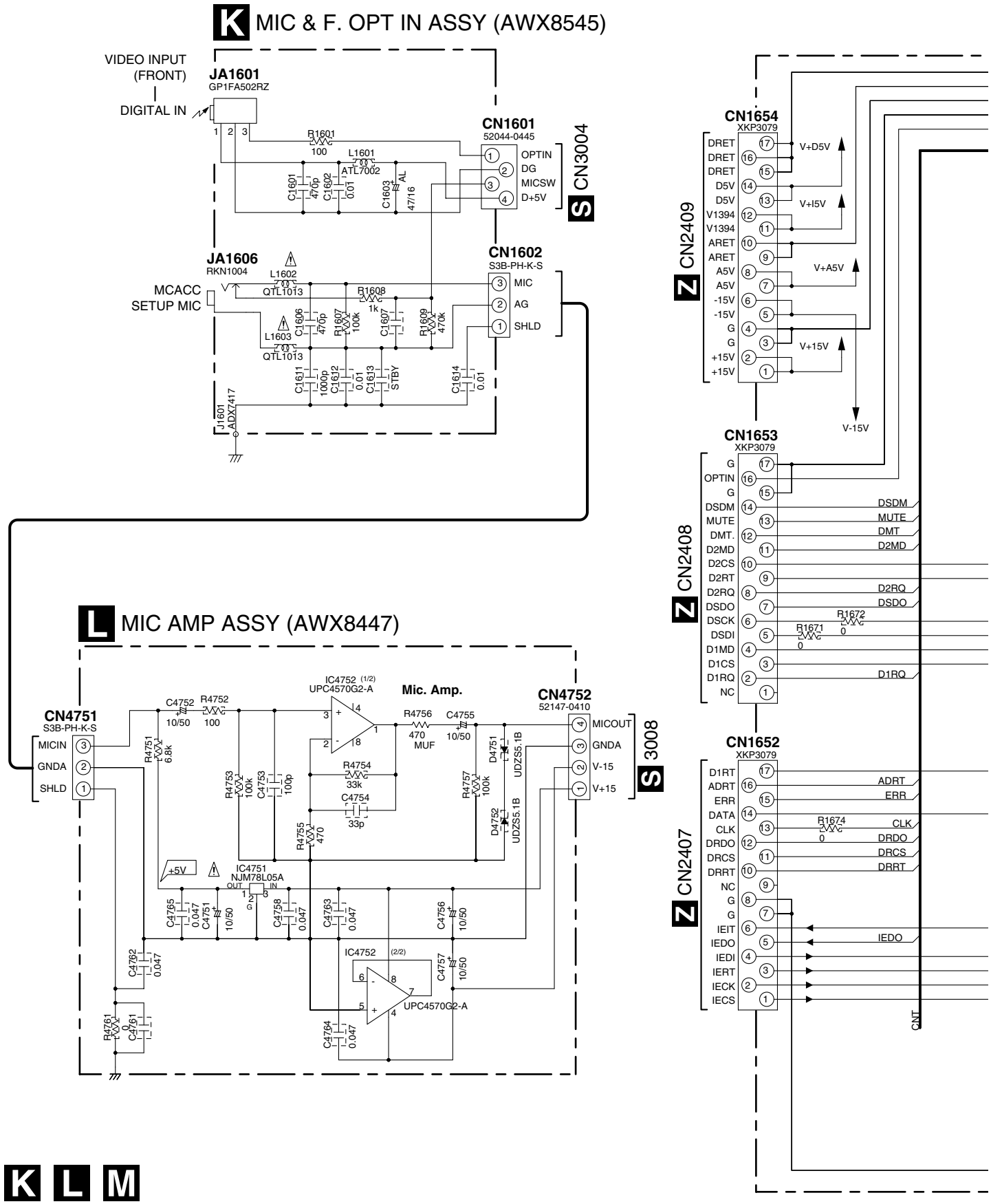


J 3/3 MAIN CONTROL ASSY (AWX8435)

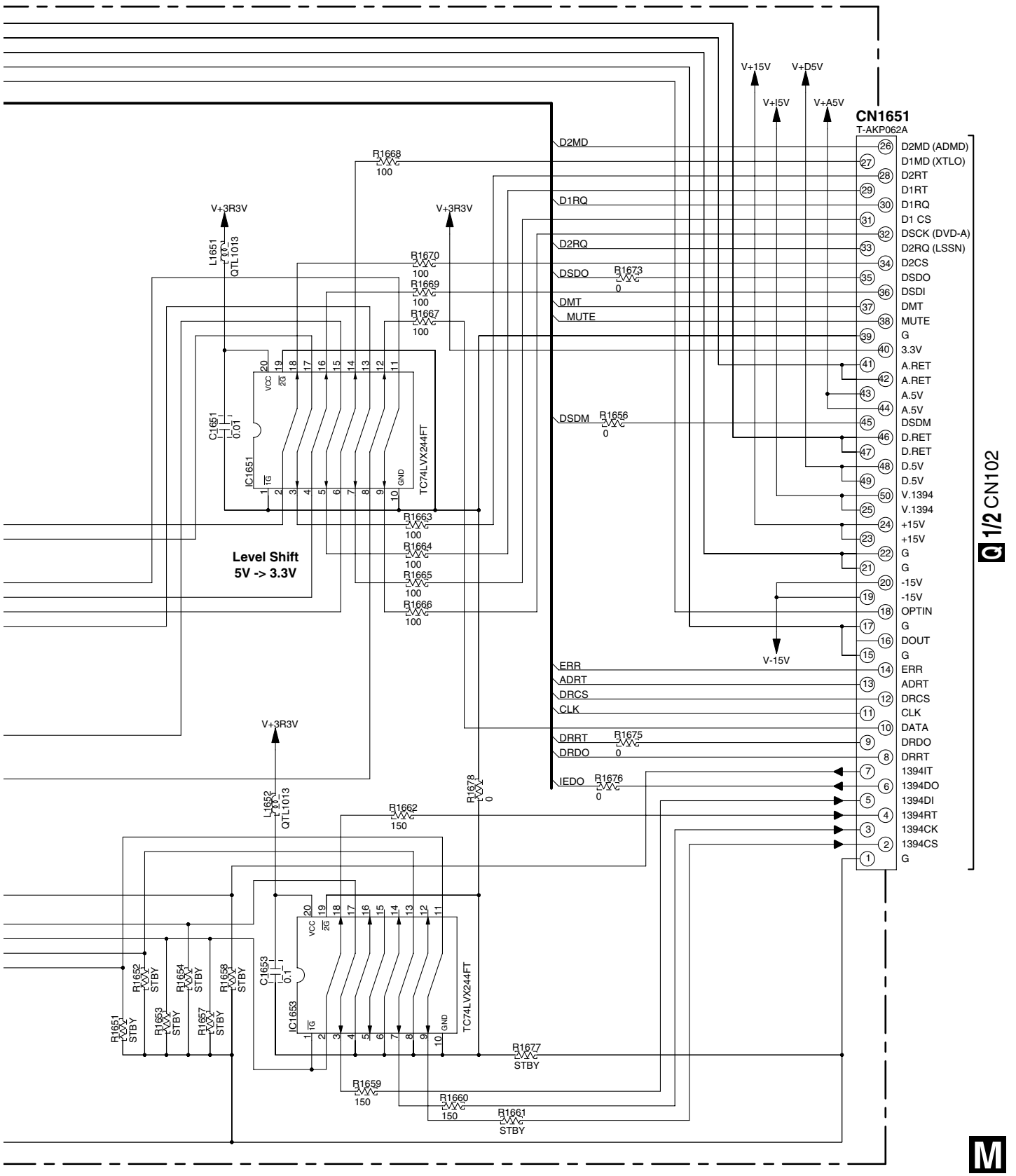
(TX) : AUDIO SIGNAL ROUTE (TUNER Lch)



3.11 MIC & F.OPT IN, MIC AMP and DSP CONNECTION ASSYS

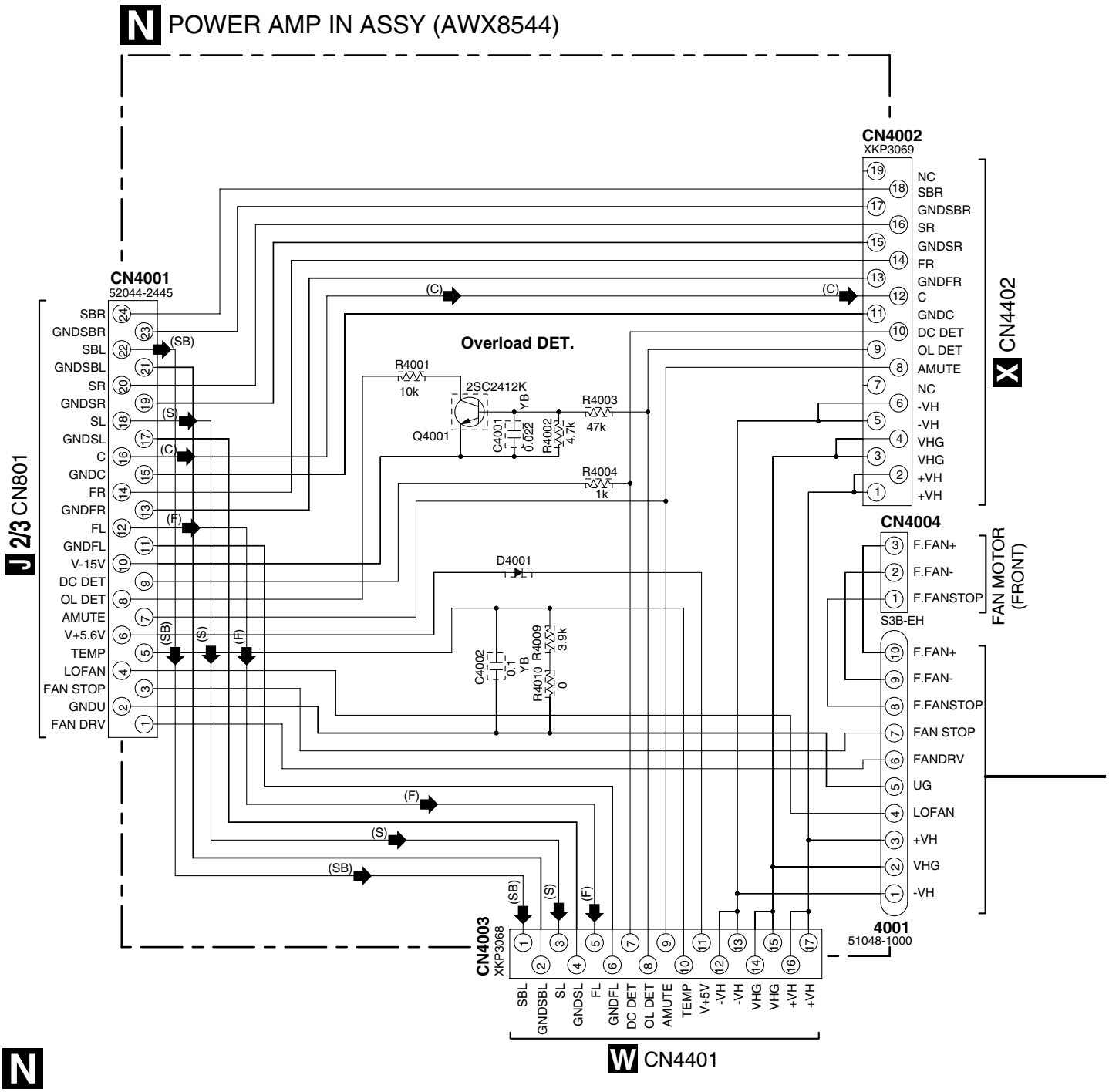


M DSP CONNECTION ASSY (AWX8441)



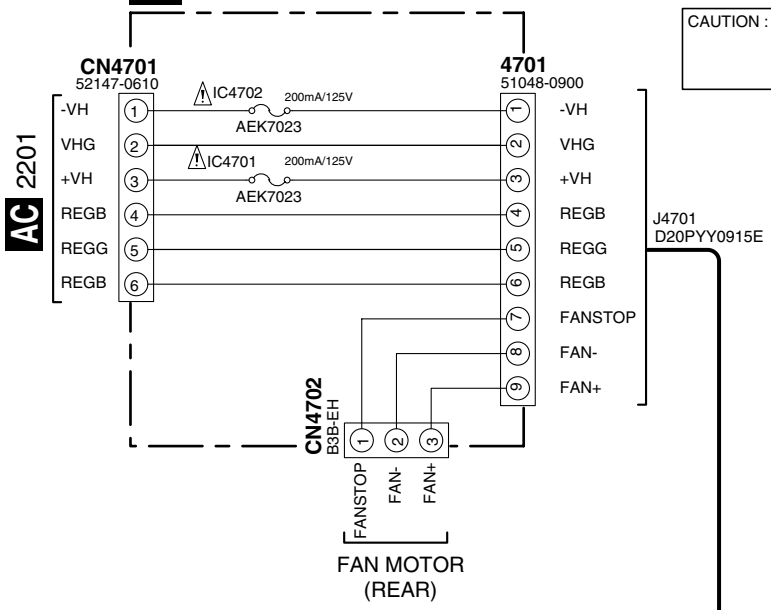
3.12 POWER AMP IN, FAN CONNECTION and FAN DRIVE ASSYS

(F) : AUDIO SIGNAL ROUTE (FRONT Lch)
(S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)

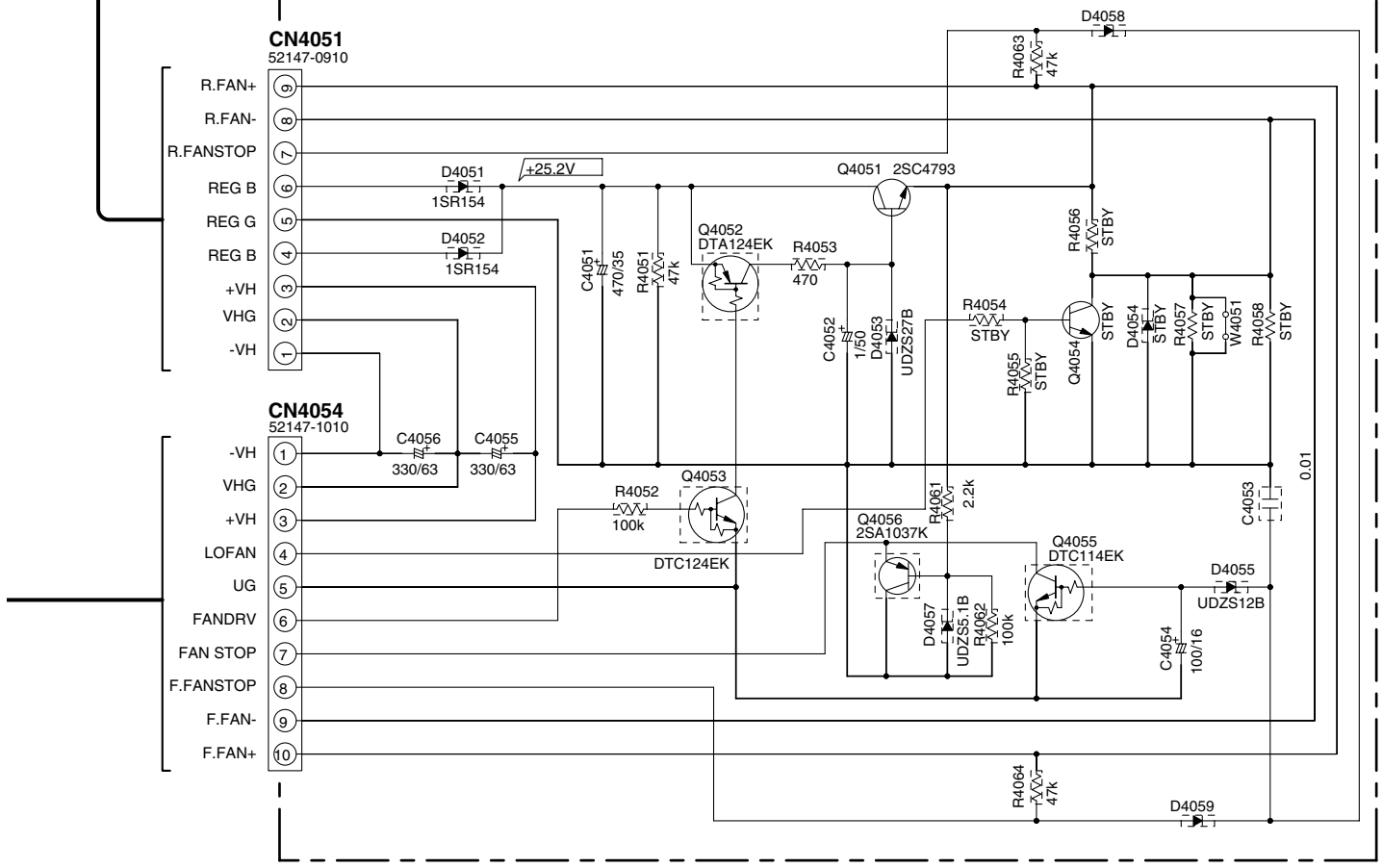


O FAN CONNECTION ASSY (AWX8448)

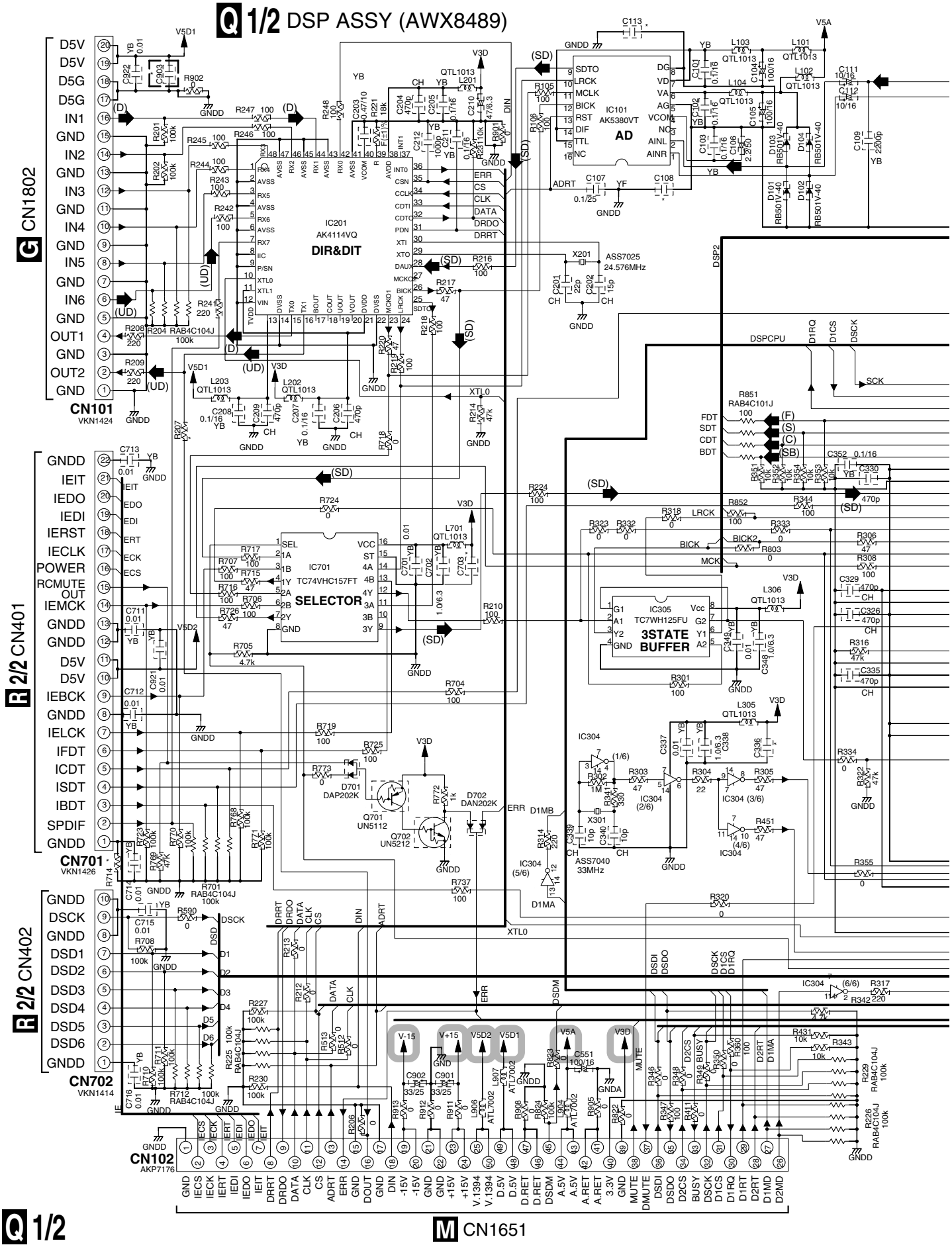
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.200 MFD, BY LITTELFUSE INK. FOR IC4701 AND IC4702.

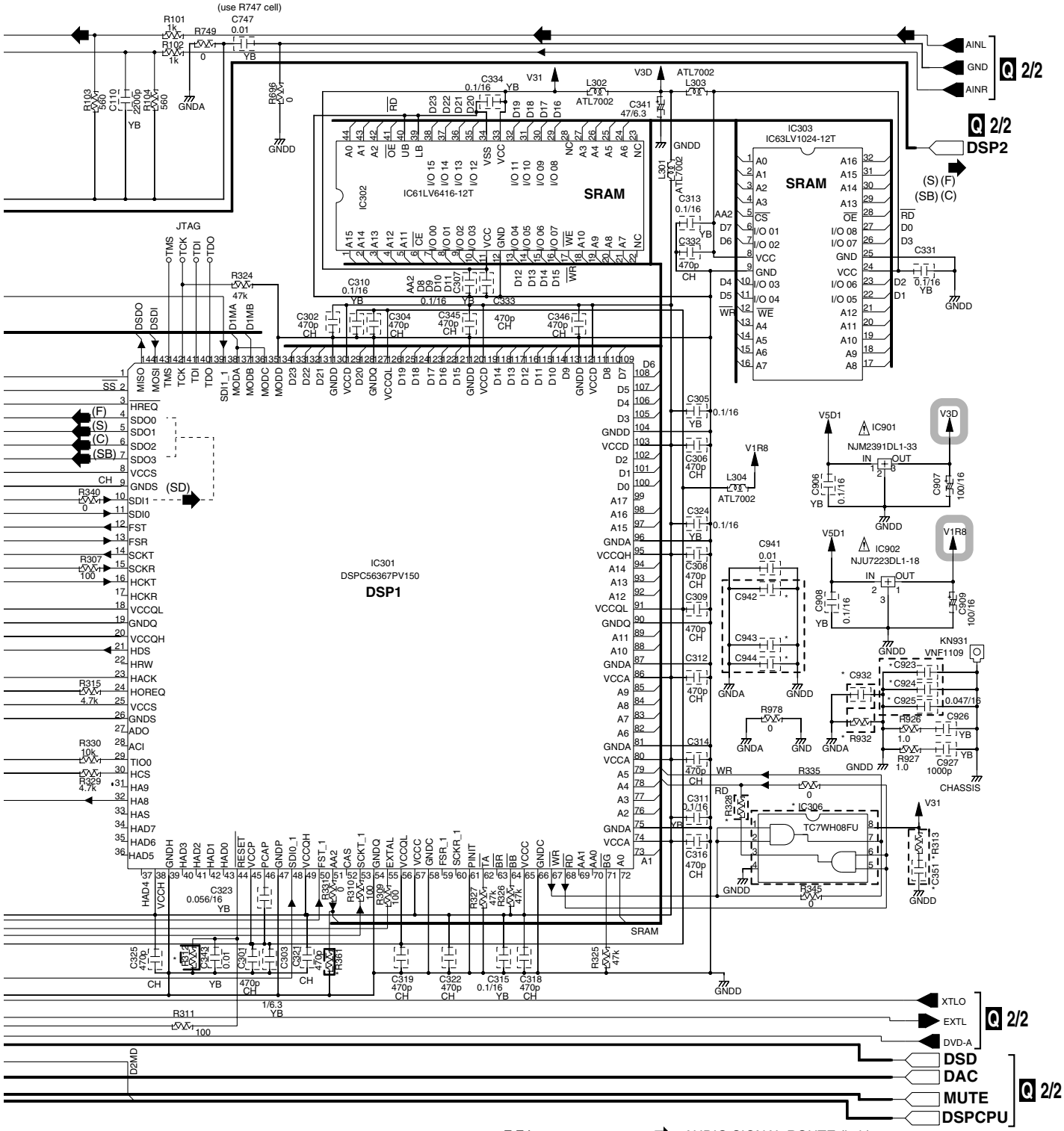


P FAN DRIVE ASSY (AWX8488)



3.13 DSP ASSY (1/2)





: STBY

: AUDIO SIGNAL ROUTE (Lch)

(F) : AUDIO SIGNAL ROUTE (FRONT Lch)

(S) : AUDIO SIGNAL ROUTE (SURROUND Lch)

(SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)

(C) : AUDIO SIGNAL ROUTE (CENTER ch)

(SD) : SURROUND DATA SIGNAL ROUTE

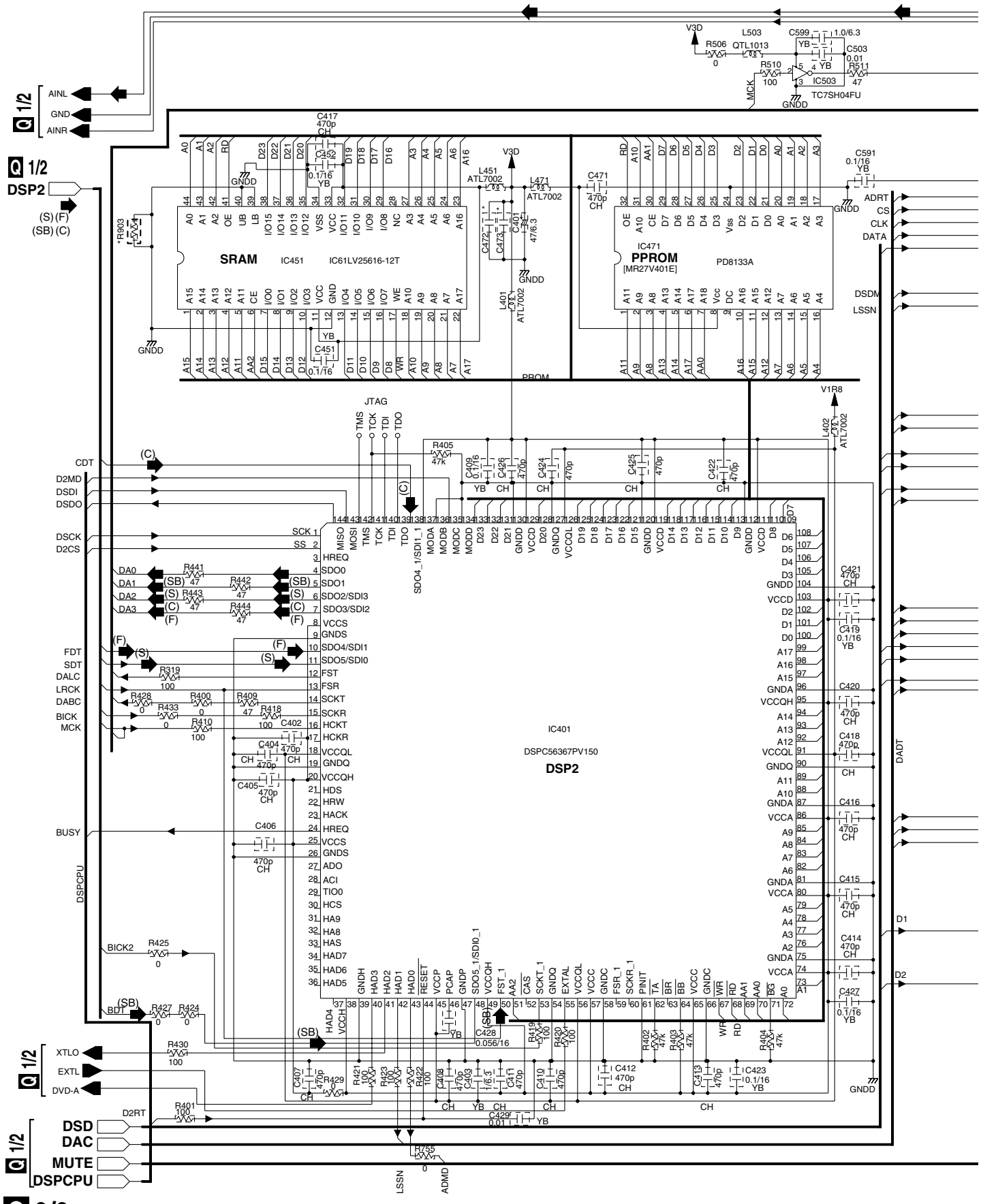
(D) : AUDIO SIGNAL ROUTE (DIGITAL)

(UD) : AUDIO SIGNAL ROUTE (USB DIGITAL)

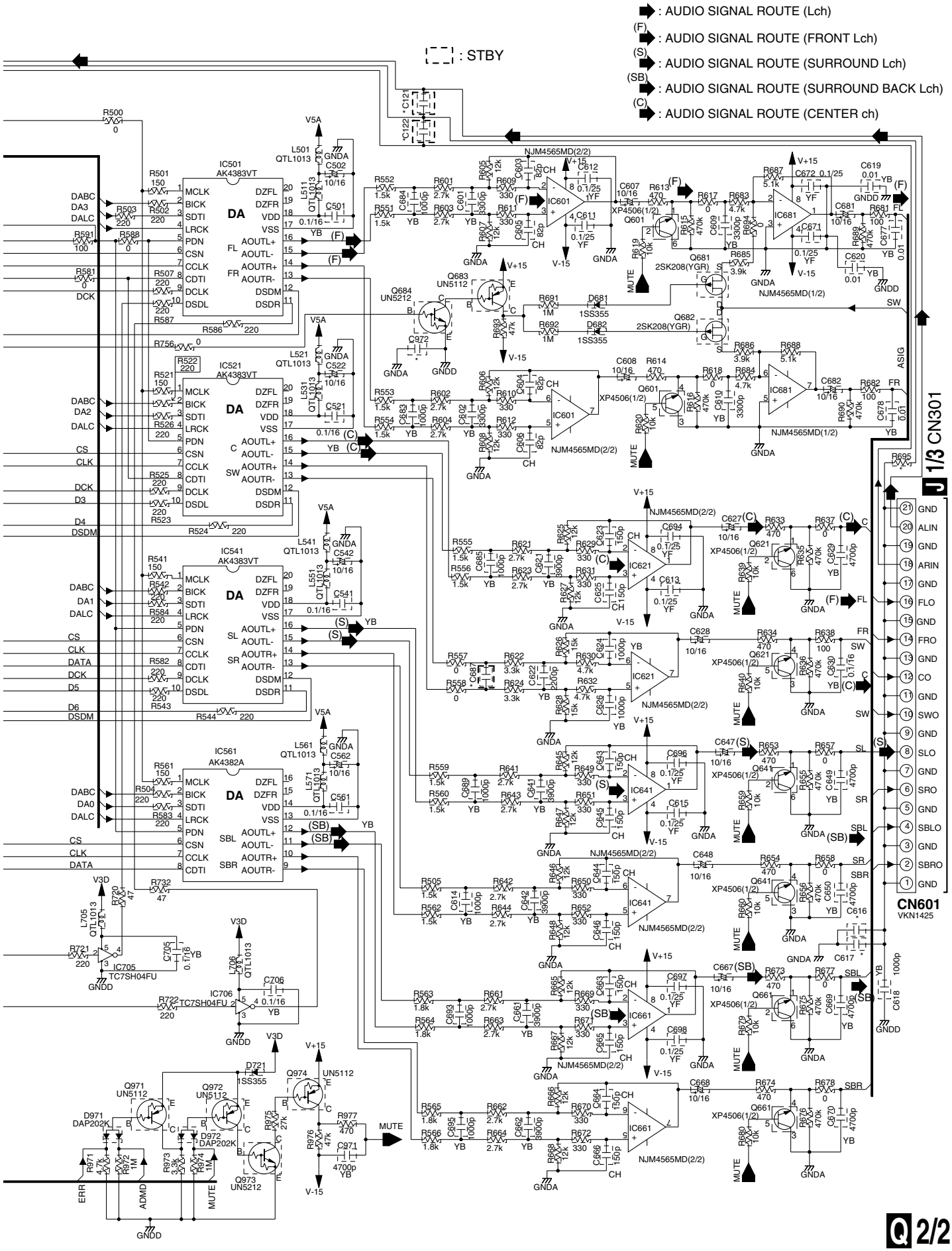
Q 1/2

3.14 DSP ASSY (2/2)

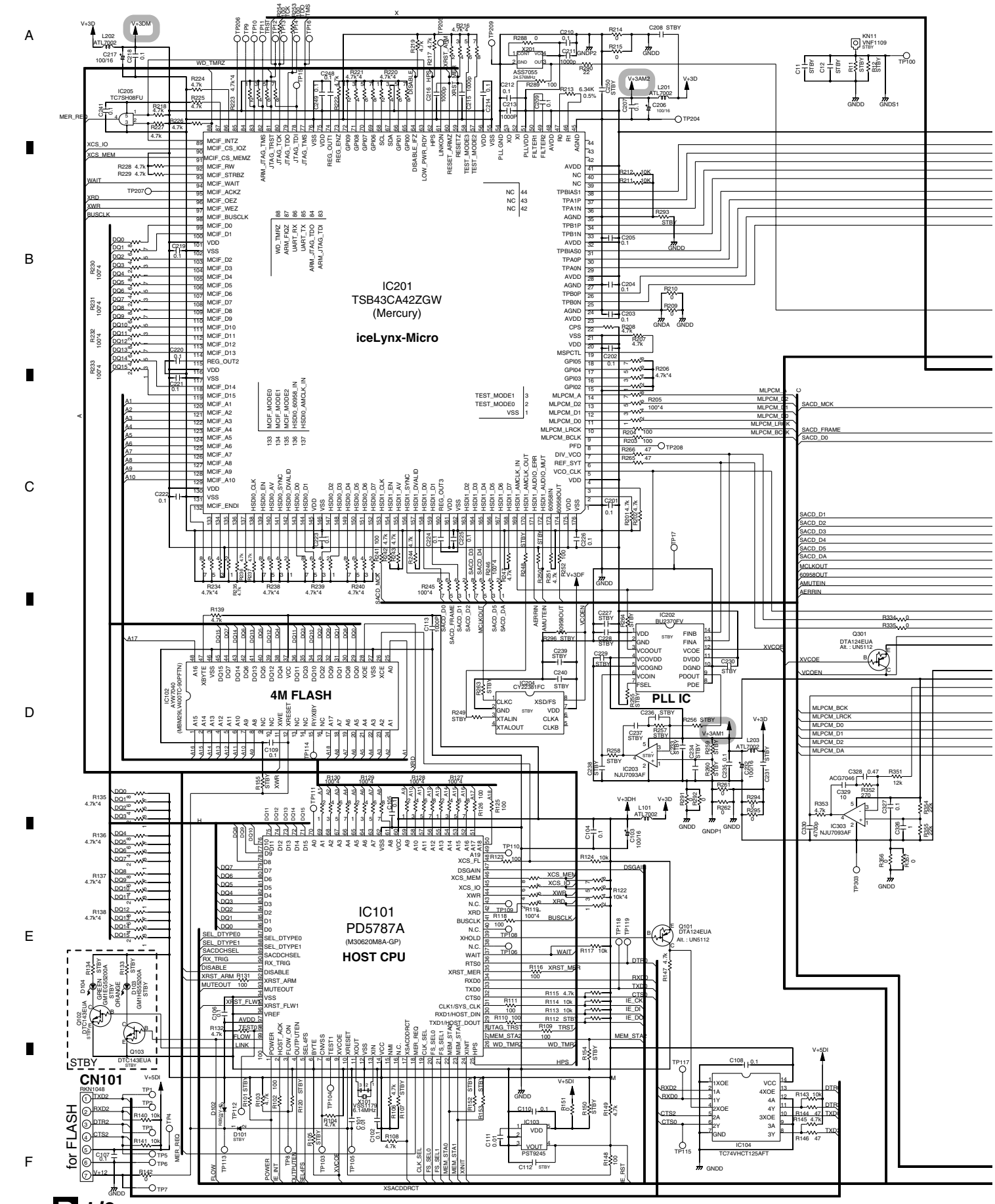
Q 2/2 DSP ASSY (AWX8489)

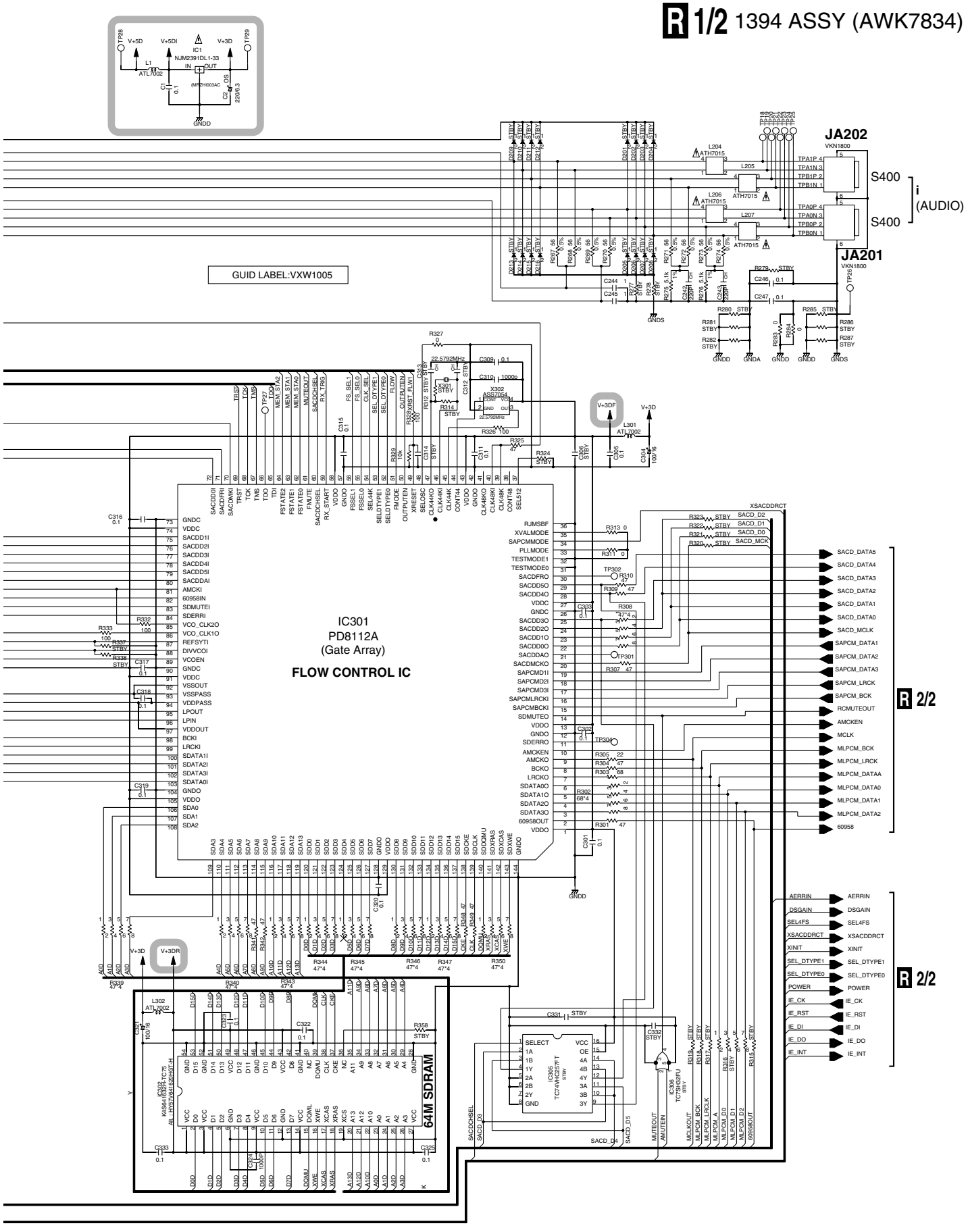


Q 2/2


: AUDIO SIGNAL ROUTE (Lch)
(F) : AUDIO SIGNAL ROUTE (FRONT Lch)
(S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)
: STBY
J 1/3 CN301
CN601
VKN1425
Q 2/2
IC501 AK4383VT
IC521 AK4383VT
IC541 AK4383VT
IC561 AK4382A
NJM4565MD(2/2)
NJM4565MD(1/2)
XP4506(1/2)
2SK208(YGR)
TC7SH04FU
DAP202K
UN5112
UN5212
1SS355
MUTE
ERR
ADMD
ASIG
SW
V+15
V-15
V5A
V3D
GNDA
GNDD

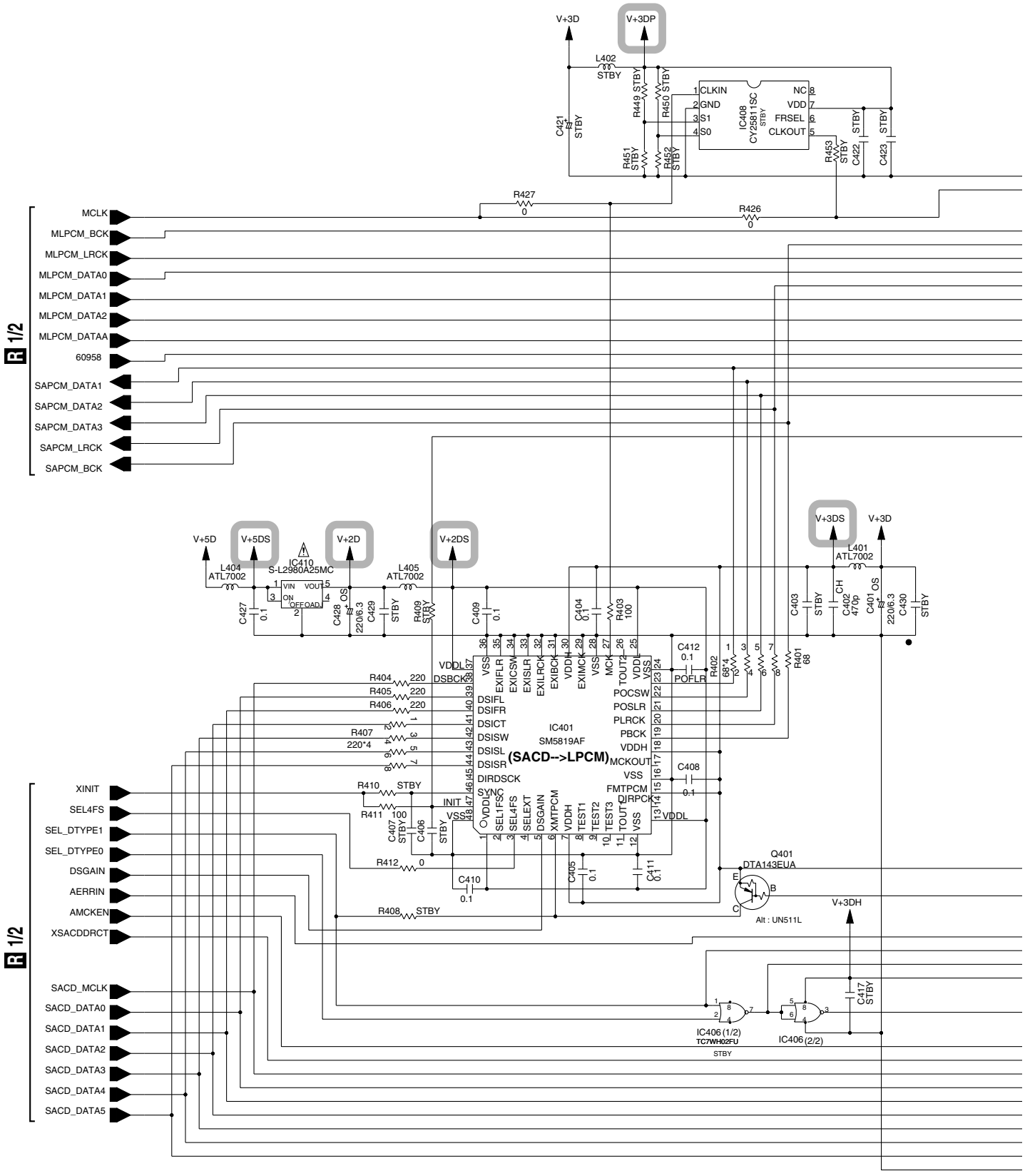
3.15 1394 ASSY (1/2)



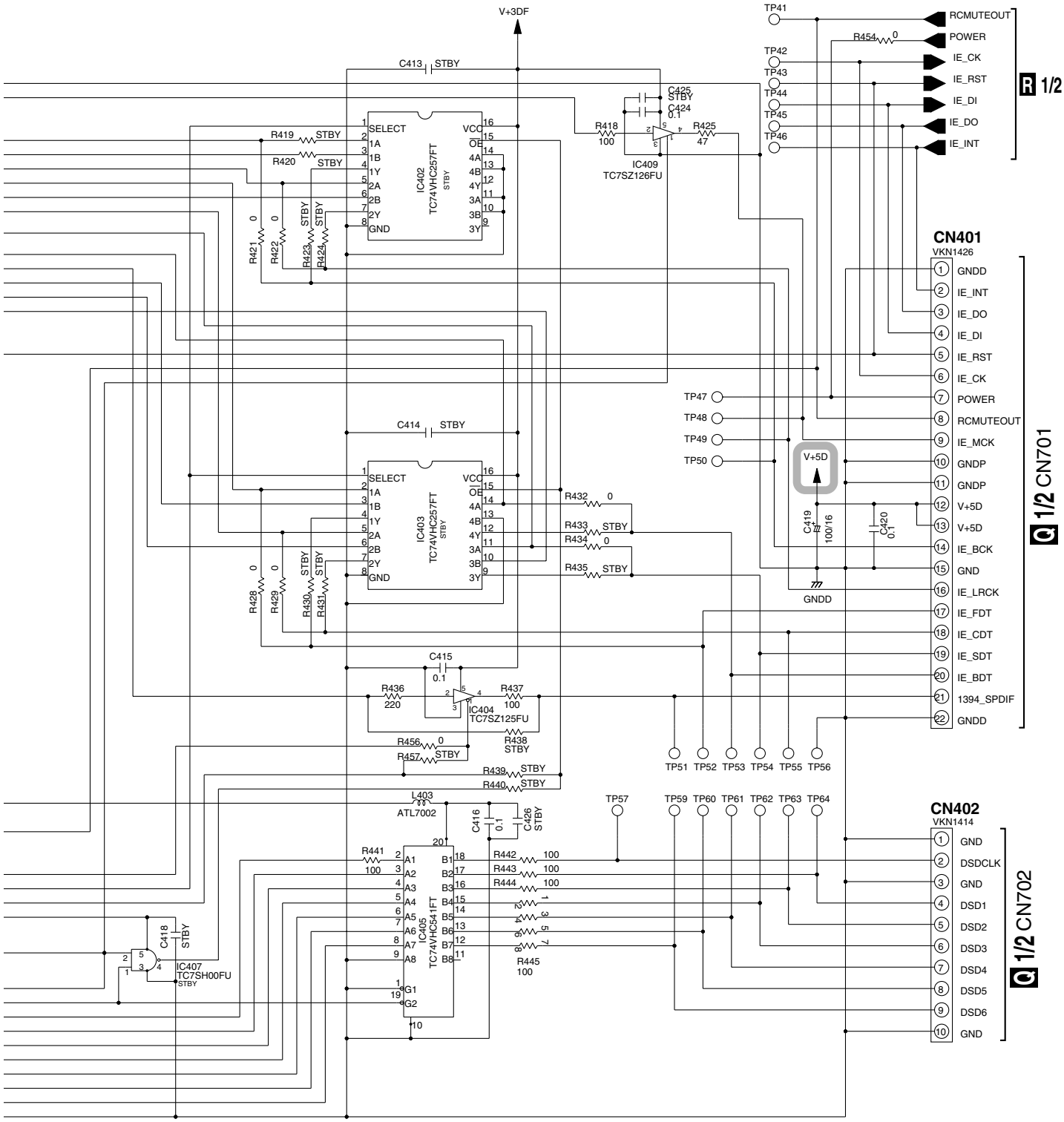

GUID LABEL:VXW1005
IC301
PD8112A
(Gate Array)
FLOW CONTROL IC
64M SDRAM
JA202
VKN1800
JA201
VKN1800
S400
S400
(AUDIO)
R 2/2
R 2/2
R 1/2

3.16 1394 ASSY (2/2)

R 2/2 1394 ASSY (AWK7834)

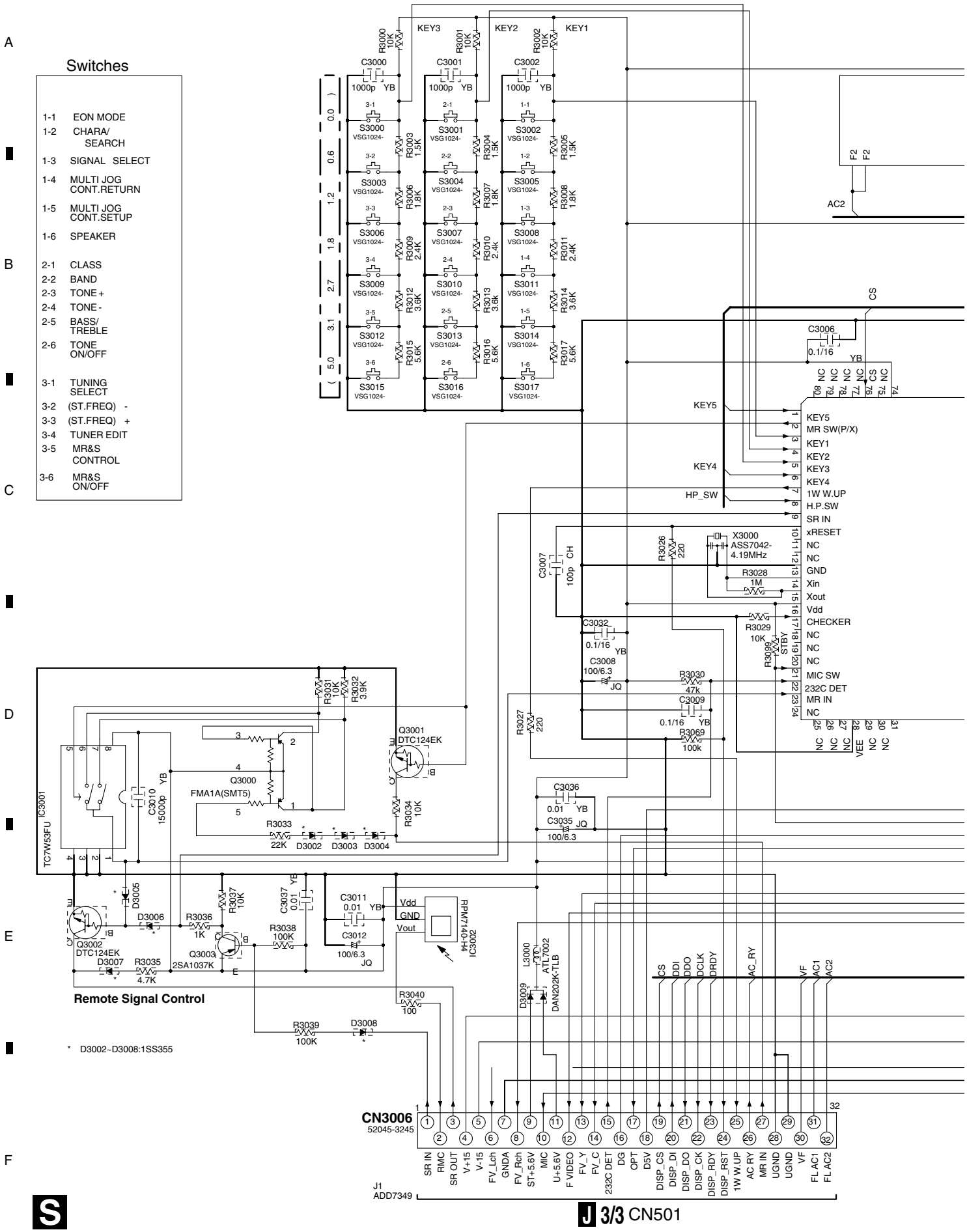


R 2/2

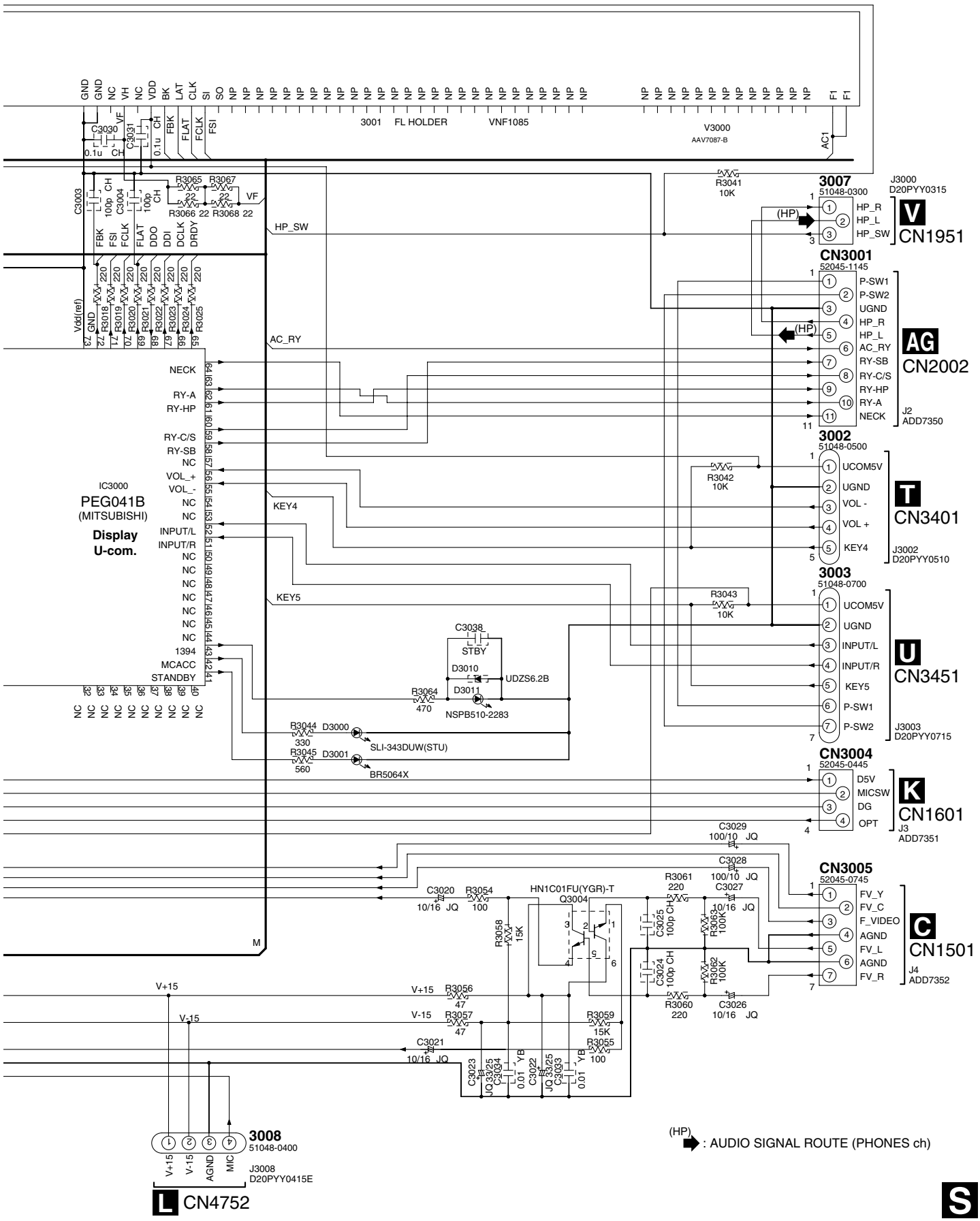

V+3DF
C413 STBY
C425 STBY
C424 0.1
R418 100
R425 47
IC409 TC7SZ126FU
R419 STBY
R420 STBY
R421 0
R422 0
R423 STBY
R424 STBY
IC402 TC74VHC257FT STBY
SELECT
1A
1B
1Y
2A
2B
2Y
GND
VCC
OE
4A
4B
4Y
3A
3B
3Y
C414 STBY
R428 0
R429 0
R430 STBY
R431 STBY
IC403 TC74VHC257FT STBY
R432 0
R433 STBY
R434 0
R435 STBY
C415 0.1
R436 220
R437 100
IC404 TC7SZ125FU
R438 STBY
R456 0
R457 STBY
R439 STBY
R440 STBY
L403 ATL7002
C416 0.1
C426 STBY
R441 100
IC405 TC74VHC541FT
A1
A2
A3
A4
A5
A6
A7
A8
G1
G2
B1
B2
B3
B4
B5
B6
B7
B8
R442 100
R443 100
R444 100
R445 100
C418 STBY
IC407 TC7SH00FU STBY
TP41
TP42
TP43
TP44
TP45
TP46
RCMUTEOUT
POWER
IE_CK
IE_RST
IE_DI
IE_DO
IE_INT
R454 0
R 1/2
CN401
VKN1426
GNDD
IE_INT
IE_DO
IE_DI
IE_RST
IE_CK
POWER
RCMUTEOUT
IE_MCK
GNDP
GNDP
V+5D
V+5D
IE_BCK
GND
IE_LRCK
IE_FDT
IE_CDT
IE_SDT
IE_BDT
1394_SPDIF
GNDD
Q 1/2 CN701
TP47
TP48
TP49
TP50
V+5D
C419 100/16
C420 0.1
GNDD
TP51
TP52
TP53
TP54
TP55
TP56
TP57
TP59
TP60
TP61
TP62
TP63
TP64
CN402
VKN1414
GND
DSDCLK
GND
DSD1
DSD2
DSD3
DSD4
DSD5
DSD6
GND
Q 1/2 CN702

R 2/2

3.17 DISPLAY ASSY

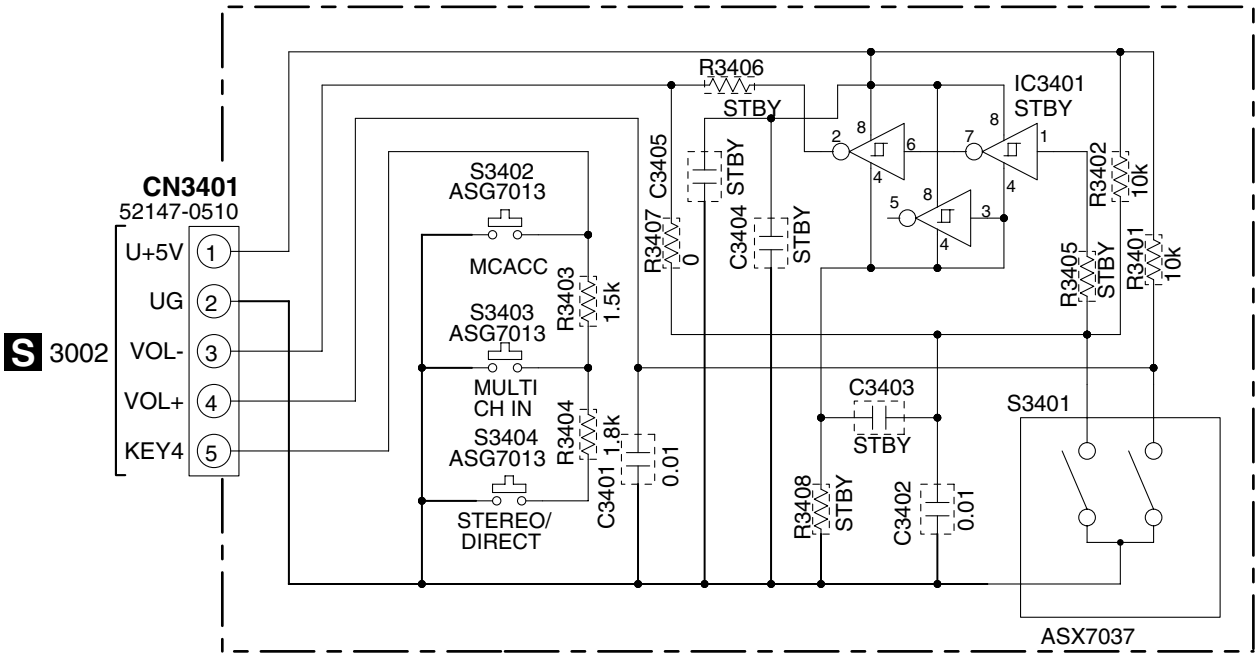


S DISPLAY ASSY (AWX8559)



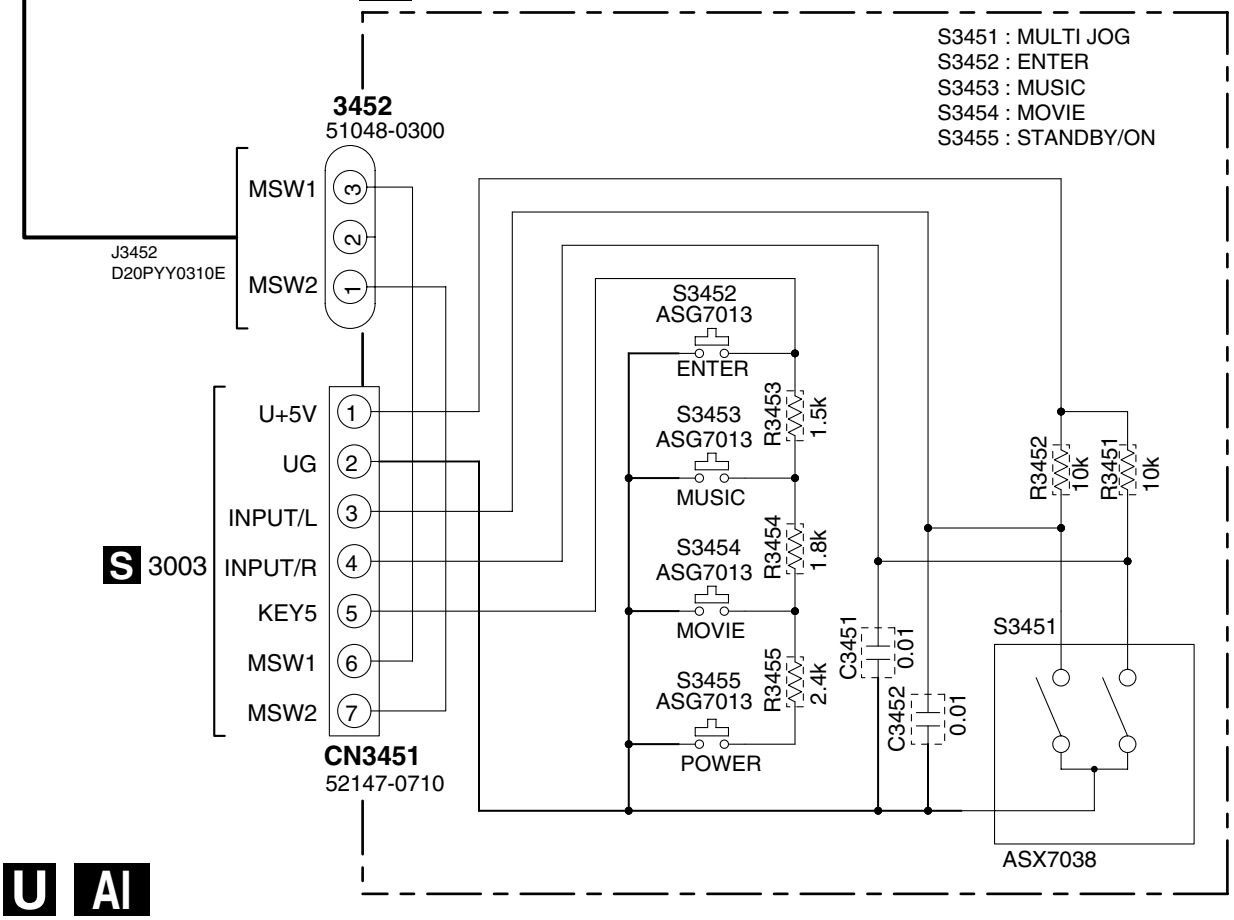
3.18 VOLUME, MULTI JOG, HEADPHONE and MECHA SW ASSYS

T VOLUME ASSY (AWX8550)



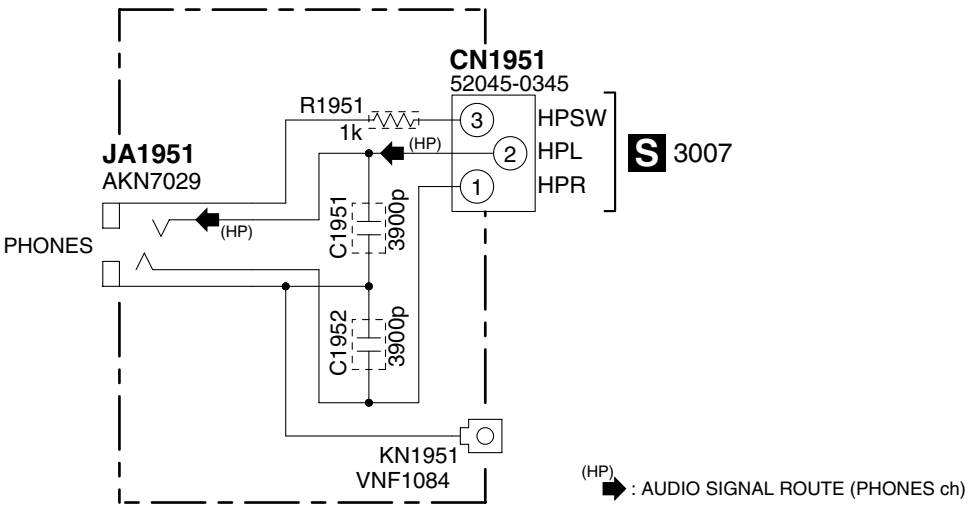
S3401 : MASTER VOLUME
S3402 : ACOUSTIC EQ
S3403 : MULTI CH IN
S3404 : STEREO / DIRECT

U MULTI JOG ASSY (AWX8552)

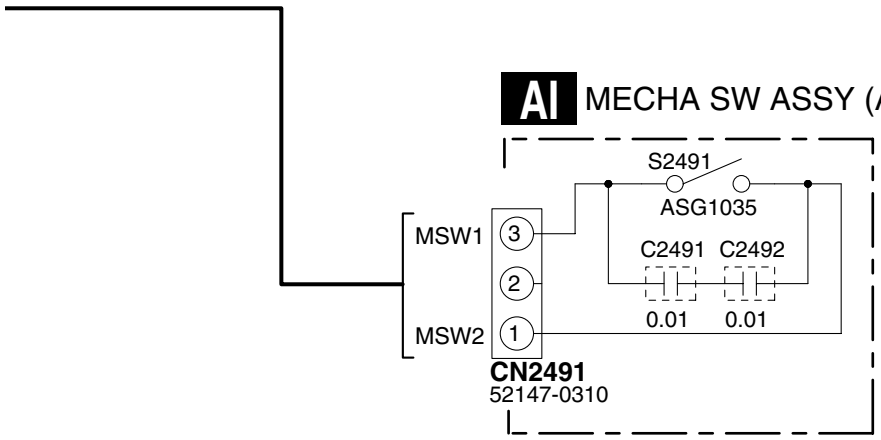


T U AI

V HEADPHONE ASSY (AWX8554)

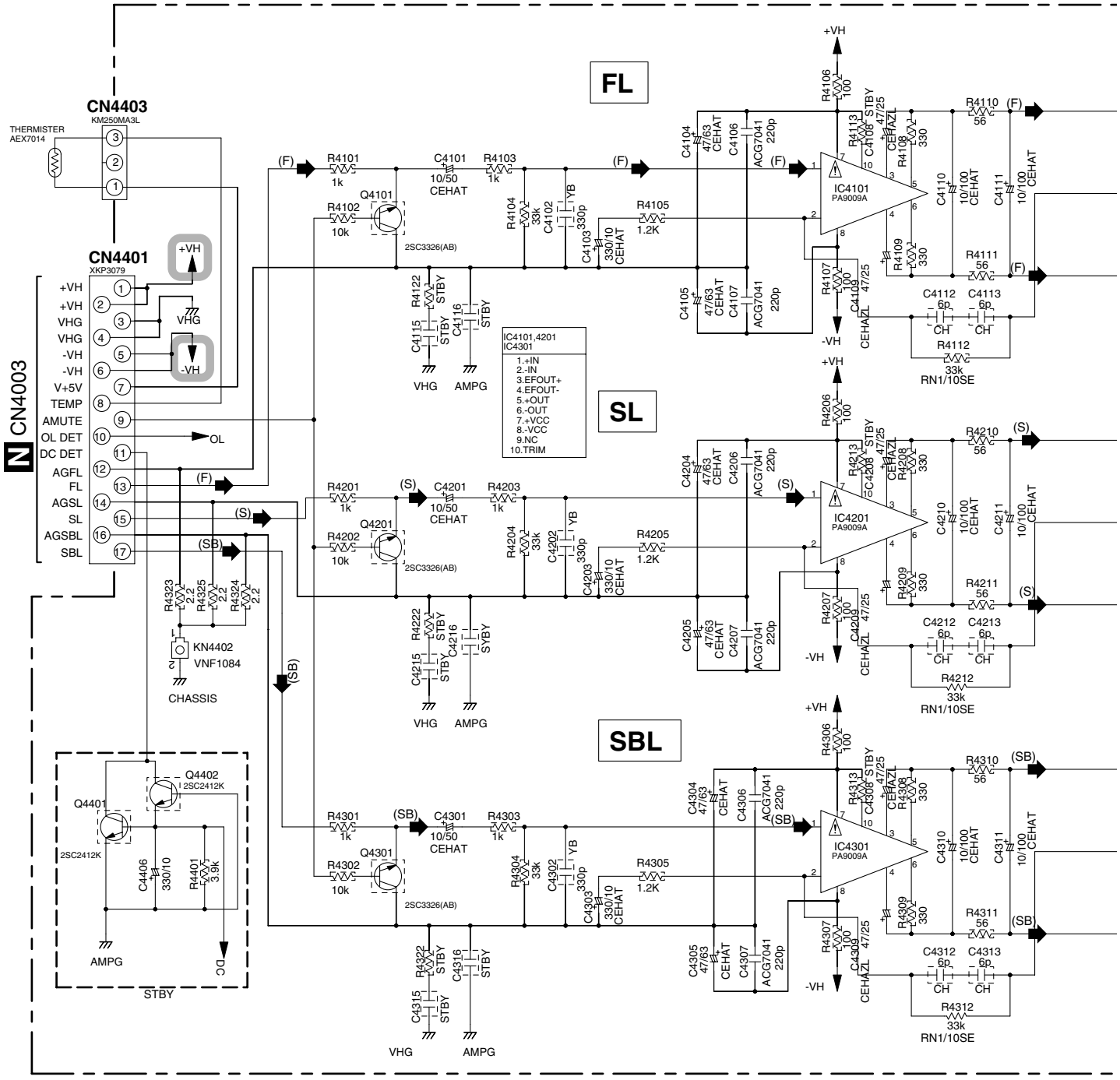


AI MECHA SW ASSY (AWX8553)



3.19 POWER AMP-L ASSY

W POWER AMP-L ASSY (AWX8560)

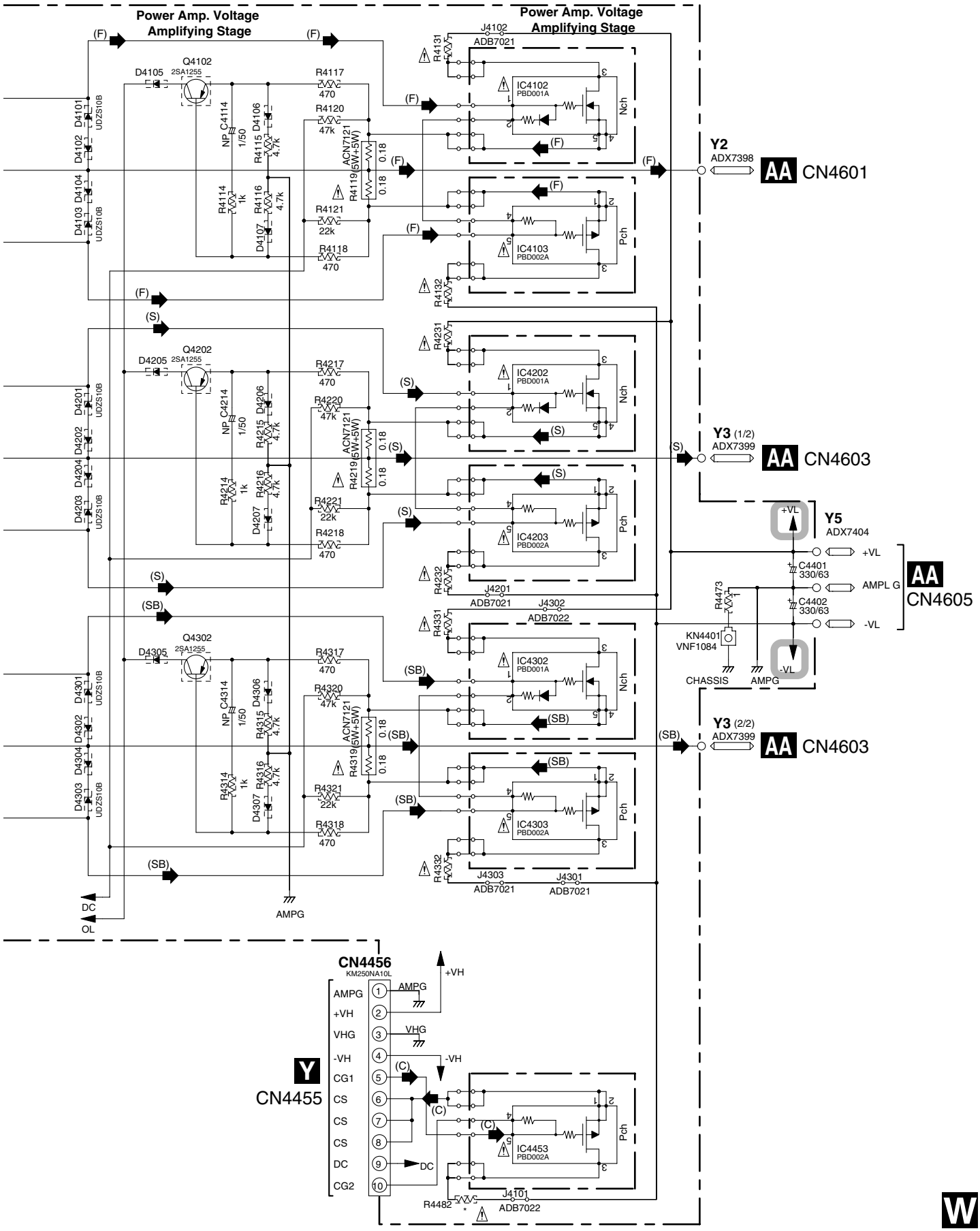


(F) : AUDIO SIGNAL ROUTE (FRONT Lch)

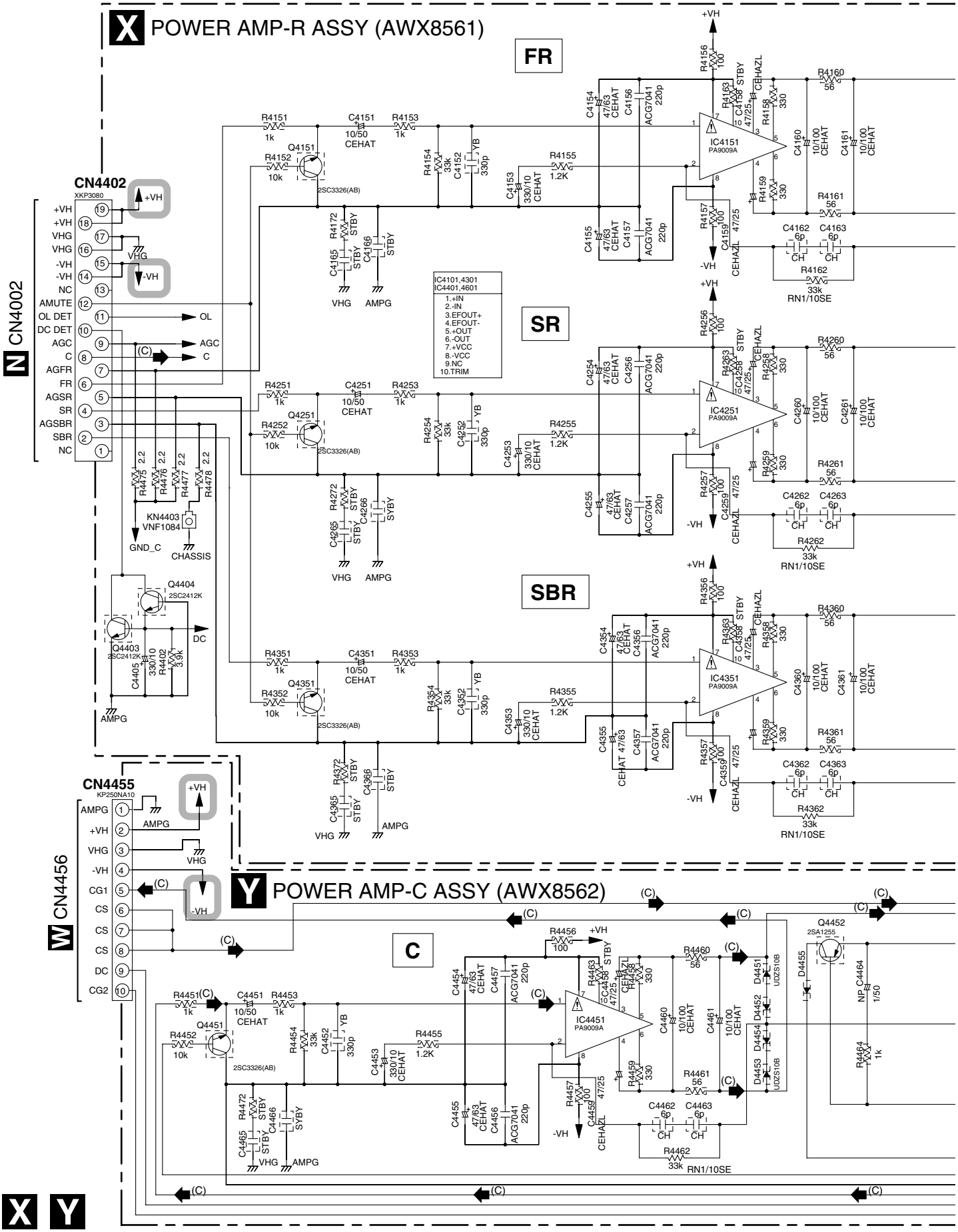
(S) : AUDIO SIGNAL ROUTE (SURROUND Lch)

(SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)

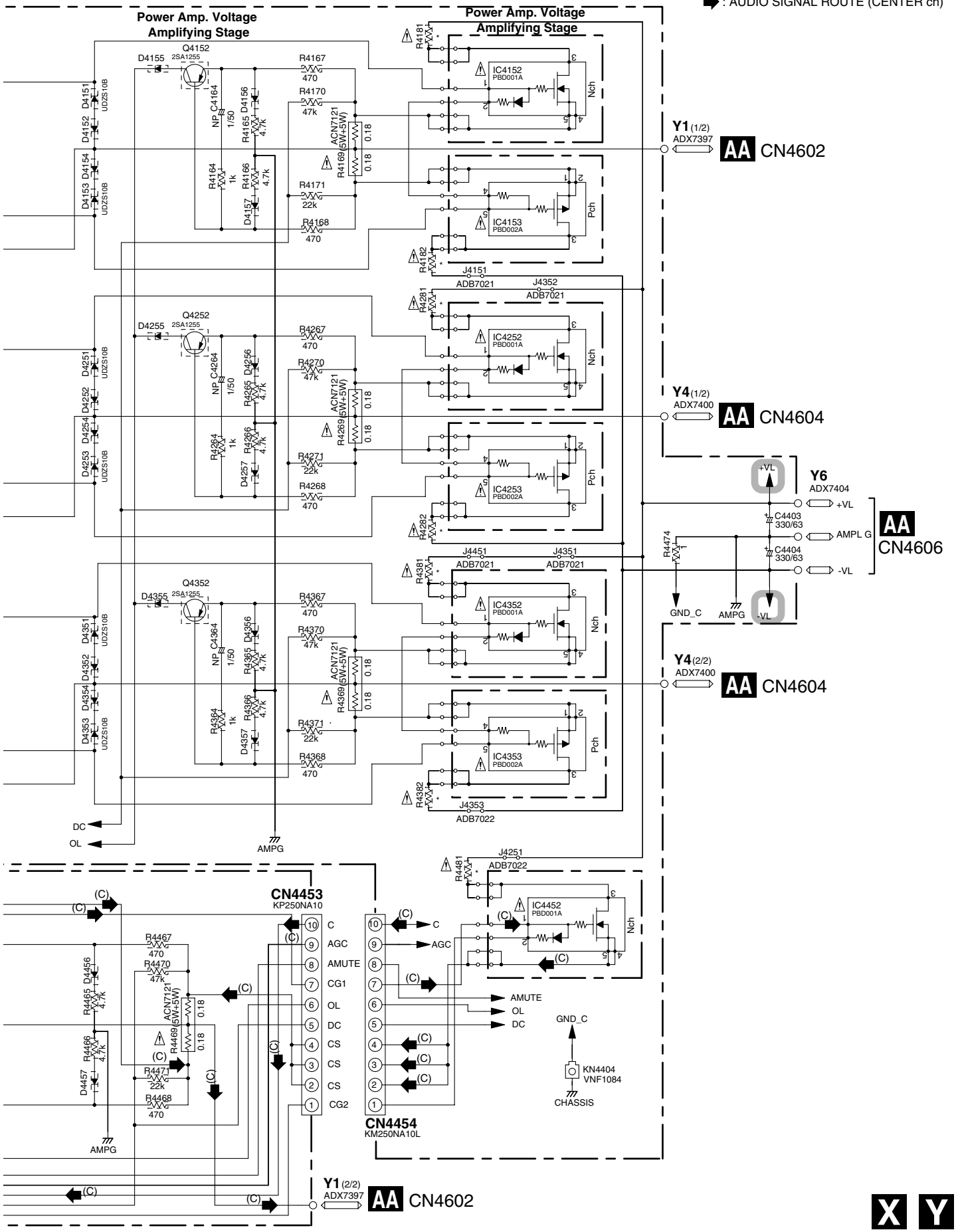
(C) : AUDIO SIGNAL ROUTE (CENTER ch)


Power Amp. Voltage Amplifying Stage
Power Amp. Voltage Amplifying Stage
Q4102
Q4202
Q4302
D4105
D4205
D4305
2SA1255
R4117
R4217
R4317
470
R4120
R4220
R4320
47k
NP_C4214
NP_C4314
1/50
R4115
R4215
R4315
4.7k
D4106
D4206
D4306
R4114
R4214
R4314
1k
R4116
R4216
R4316
D4107
D4207
D4307
ACN7121 (5W+5W)
R4119
R4219
R4319
0.18
R4121
R4221
R4321
22k
R4118
R4218
R4318
D4101
D4102
D4103
D4104
D4201
D4202
D4203
D4204
D4301
D4302
D4303
D4304
UDZS10B
J4102
ADB7021
R4131
R4132
IC4102
PBD001A
IC4103
PBD002A
Nch
Pch
R4231
R4232
IC4202
PBD001A
IC4203
PBD002A
J4201
ADB7021
J4302
ADB7022
R4331
R4332
IC4302
PBD001A
IC4303
PBD002A
J4303
ADB7021
J4301
ADB7021
Y2
ADX7398
AA CN4601
Y3 (1/2)
ADX7399
AA CN4603
Y3 (2/2)
ADX7399
AA CN4603
Y5
ADX7404
+VL
-VL
C4401
330/63
C4402
330/63
AMPL G
AA CN4605
R4473
KN4401
VNF1084
CHASSIS
AMPG
DC
OL
AMPG
CN4456
KM250NA10L
AMPG
+VH
VHG
-VH
CG1
CS
CS
CS
DC
CG2
Y
CN4455
(C)
DC
J4101
ADB7022
R4482
IC4453
PBD002A
(F)
(S)
(SB)

3.20 POWER AMP-R and POWER AMP-C ASSYS



(C) : AUDIO SIGNAL ROUTE (CENTER ch)



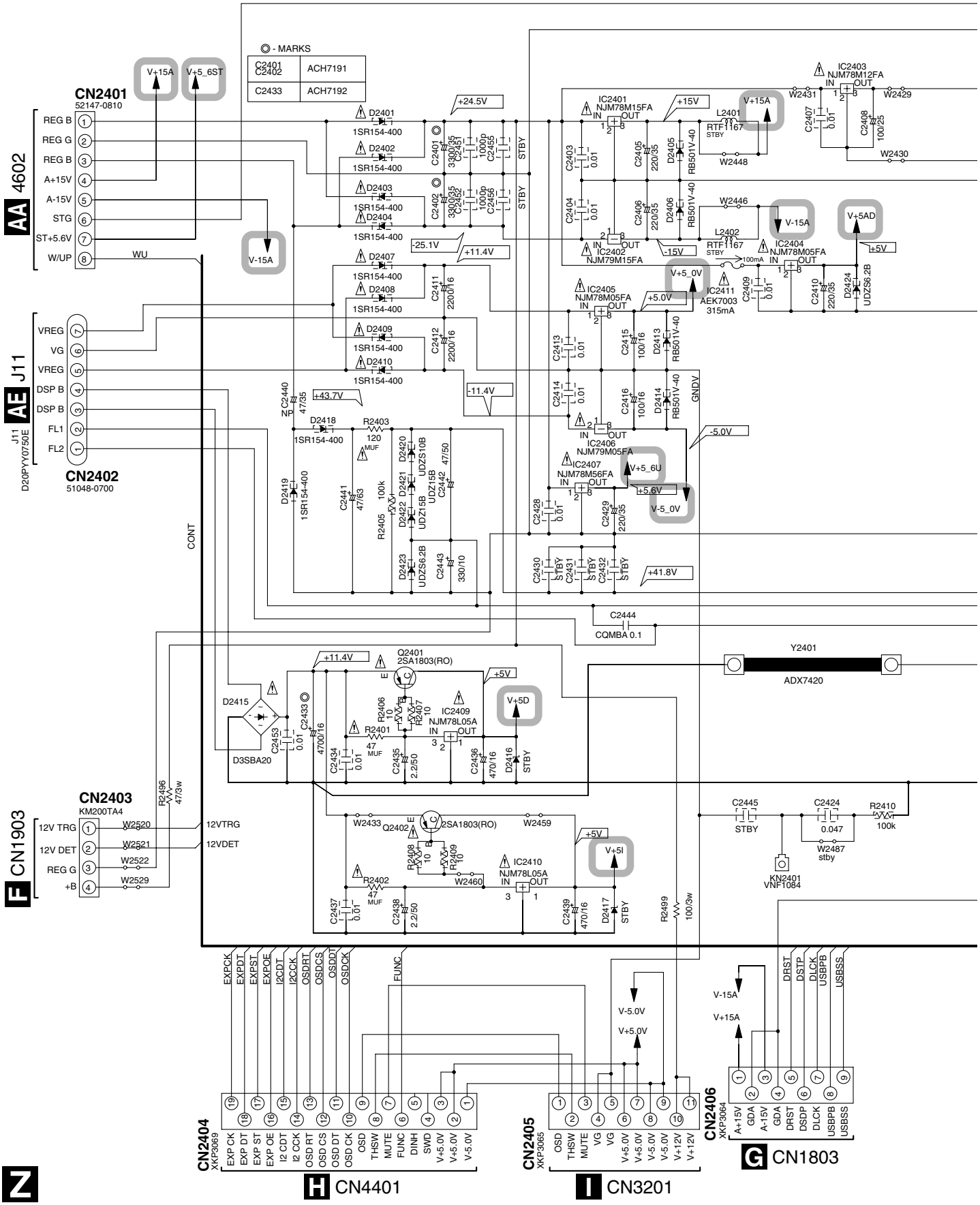
3.21 REGULATOR ASSY

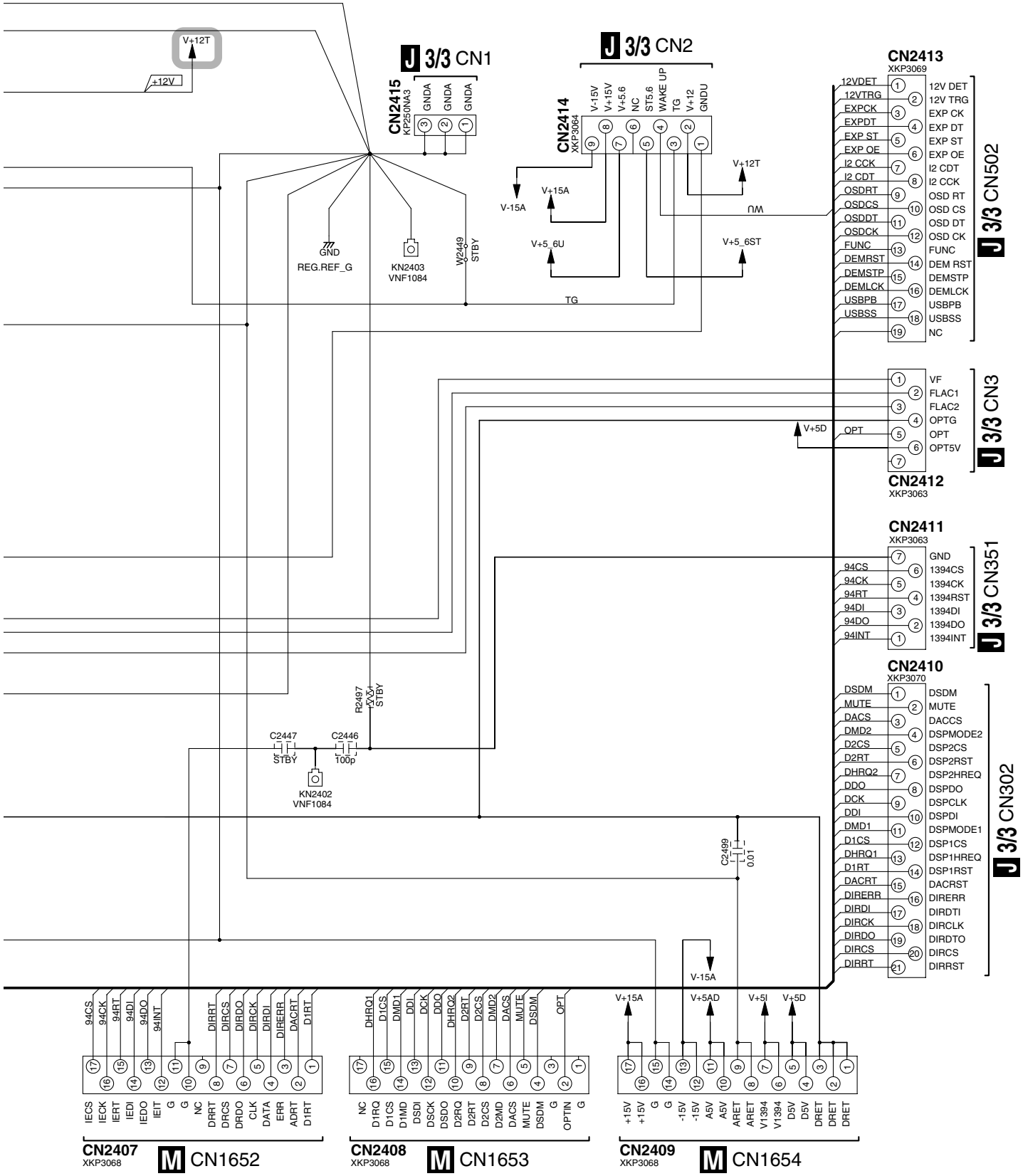
Z REGULATOR ASSY (AWX8541)

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.315 MFD, BY LITTELFUSE INK. FOR IC2411.

◎ - MARKS

C2401 C2402	ACH7191
C2433	ACH7192

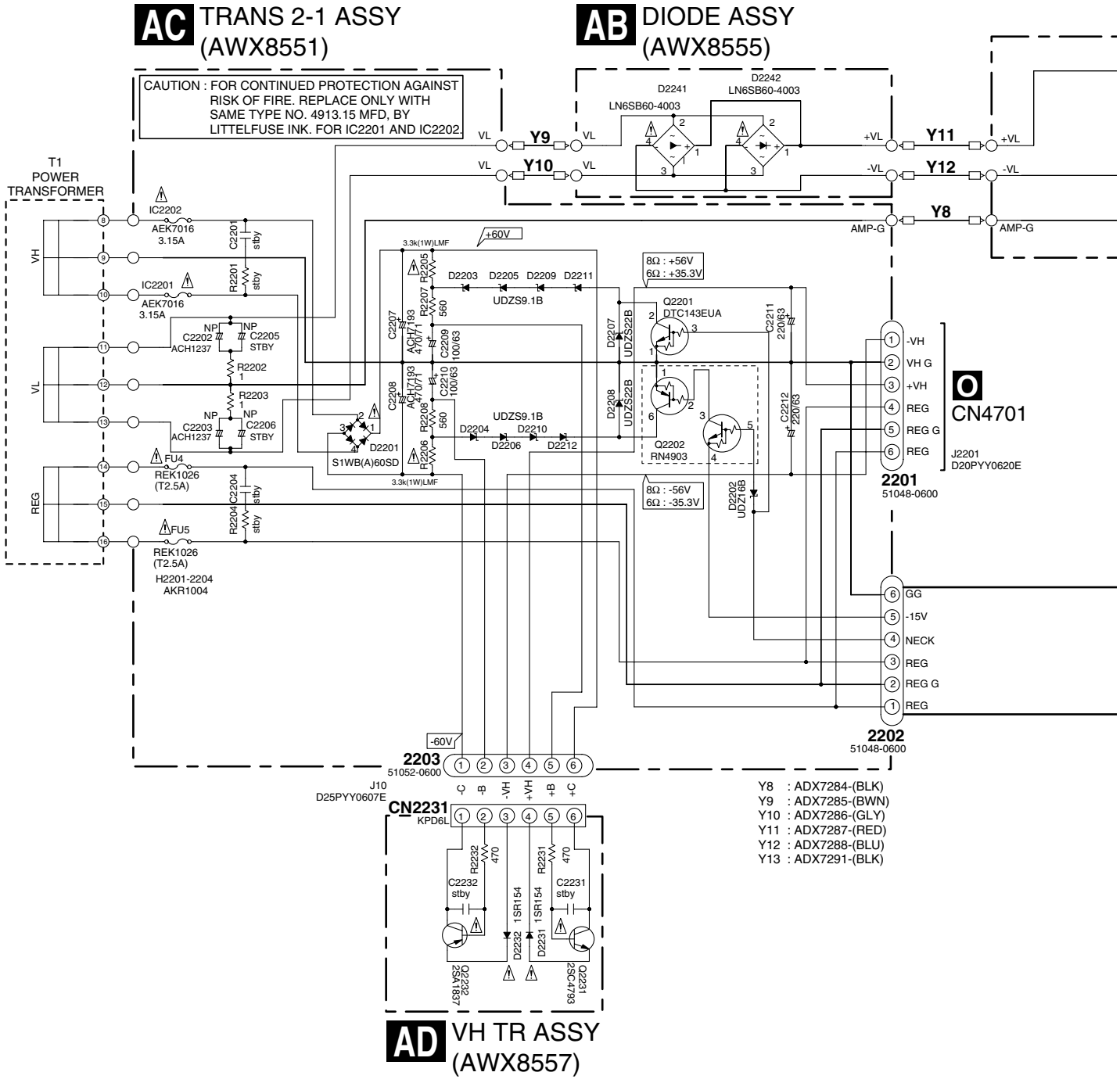



J 3/3 CN1
J 3/3 CN2
CN2415
KP250NA3
GNDA
GNDA
GNDA
CN2414
XKP3064
V-15V
V+15V
V+5.6
NC
ST5.6
WAKE UP
TG
V+12
GNDU
V+12T
+12V
V-15A
V+15A
V+5_6U
V+5_6ST
TG
GND
REG.REF_G
KN2403
VNF1084
W2449
STBY
CN2413
XKP3069
12VDET
12VTRG
EXPCK
EXPDT
EXP ST
EXP OE
I2 CCK
I2 CDT
OSDRT
OSDCS
OSDDT
OSDCK
FUNC
DEMRST
DEMSTP
DEMLCK
USBPB
USBSS
12V DET
12V TRG
EXP CK
EXP DT
EXP ST
EXP OE
I2 CDT
I2 CCK
OSD RT
OSD CS
OSD DT
OSD CK
FUNC
DEM RST
DEMSTP
DEMLCK
USBPB
USBSS
NC
J 3/3 CN502
VF
FLAC1
FLAC2
OPTG
OPT
OPT5V
V+5D
OPT
J 3/3 CN3
CN2412
XKP3063
CN2411
XKP3063
GND
94CS
94CK
94RT
94DI
94DO
94INT
1394CS
1394CK
1394RST
1394DI
1394DO
1394INT
J 3/3 CN351
CN2410
XKP3070
DSDM
MUTE
DACS
DMD2
D2CS
D2RT
DHRQ2
DDO
DCK
DDI
DMD1
D1CS
DHRQ1
D1RT
DACRT
DIRERR
DIRDI
DIRCK
DIRDO
DIRCS
DIRRT
DSDM
MUTE
DACCS
DSPMODE2
DSP2CS
DSP2RST
DSP2HREQ
DSPDO
DSPCLK
DSPDI
DSPMODE1
DSP1CS
DSP1HREQ
DSP1RST
DACRST
DIRERR
DIRDTI
DIRCLK
DIRDTO
DIRCS
DIRRST
J 3/3 CN302
R2497
4X51
STBY
C2447
STBY
C2446
100p
KN2402
VNF1084
C2499
0.01
V-15A
V+15A
V+5AD
V+5I
V+5D
94CS
94CK
94RT
94DI
94DO
94INT
DIRRT
DIRCS
DIRDO
DIRCK
DIRDI
DIRERR
DACRT
D1RT
IECS
IECK
IERT
IEDI
IEDO
IEIT
G
G
NC
DRRT
DRCS
DRDO
CLK
DATA
ERR
ADRT
D1RT
CN2407
XKP3068
M CN1652
DHRQ1
D1CS
D1MD
DDI
DCK
DDO
DHRQ2
D2RT
D2CS
DMD2
DACS
MUTE
DSDM
OPT
NC
D1RQ
D1CS
D1MD
DSDI
DSCK
DSDO
D2RQ
D2RT
D2CS
D2MD
DACS
MUTE
DSDM
G
OPTIN
G
CN2408
XKP3068
M CN1653
+15V
+15V
G
G
-15V
-15V
A5V
A5V
ARET
ARET
V1394
V1394
D5V
D5V
DRET
DRET
DRET
CN2409
XKP3068
M CN1654

3.22 SP/PS, DIODE, TRANS 2-1 and VH TR ASSYS

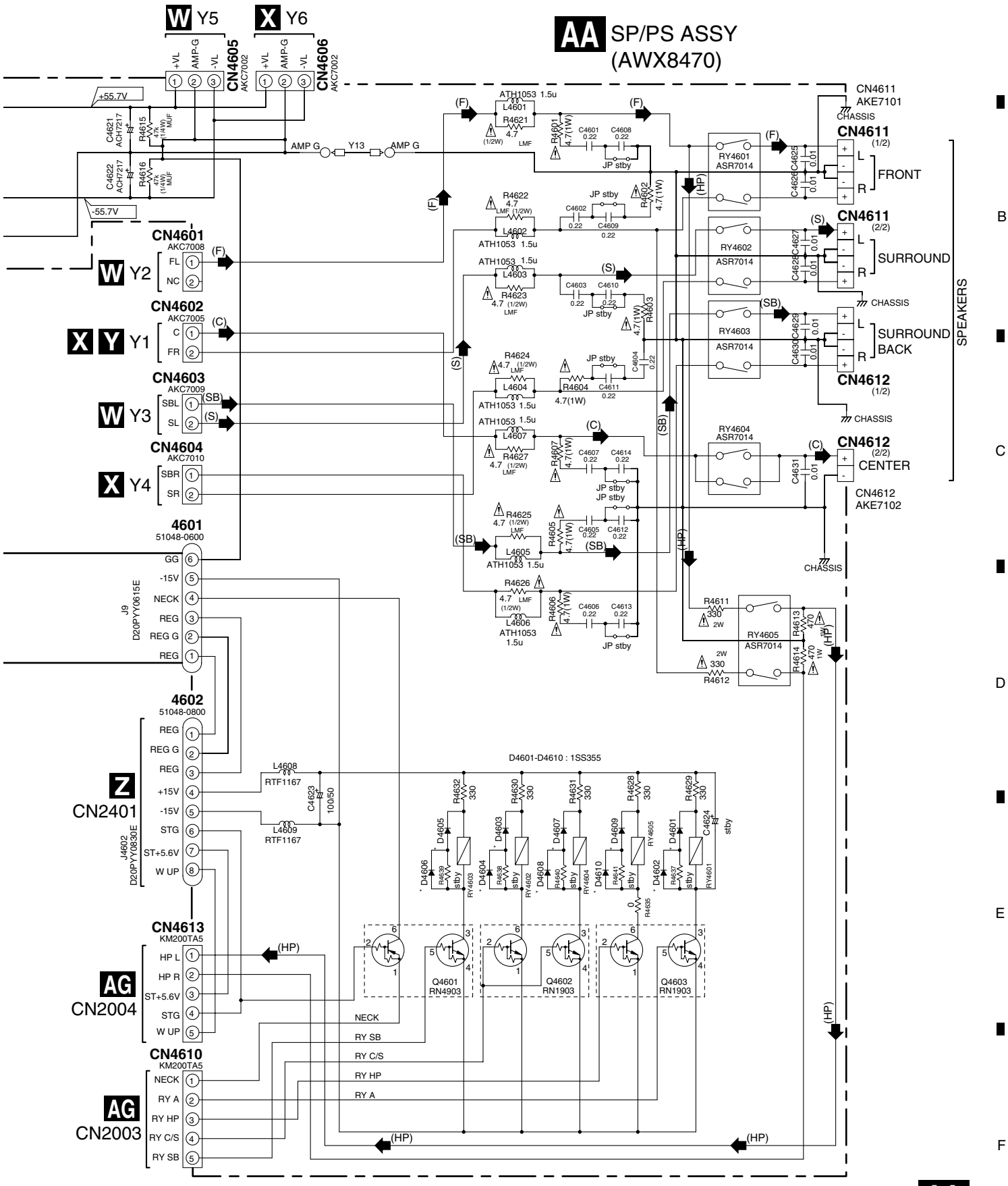
• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.



(F) : AUDIO SIGNAL ROUTE (FRONT Lch)
(S) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SB) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)
(HP) : AUDIO SIGNAL ROUTE (PHONES ch)

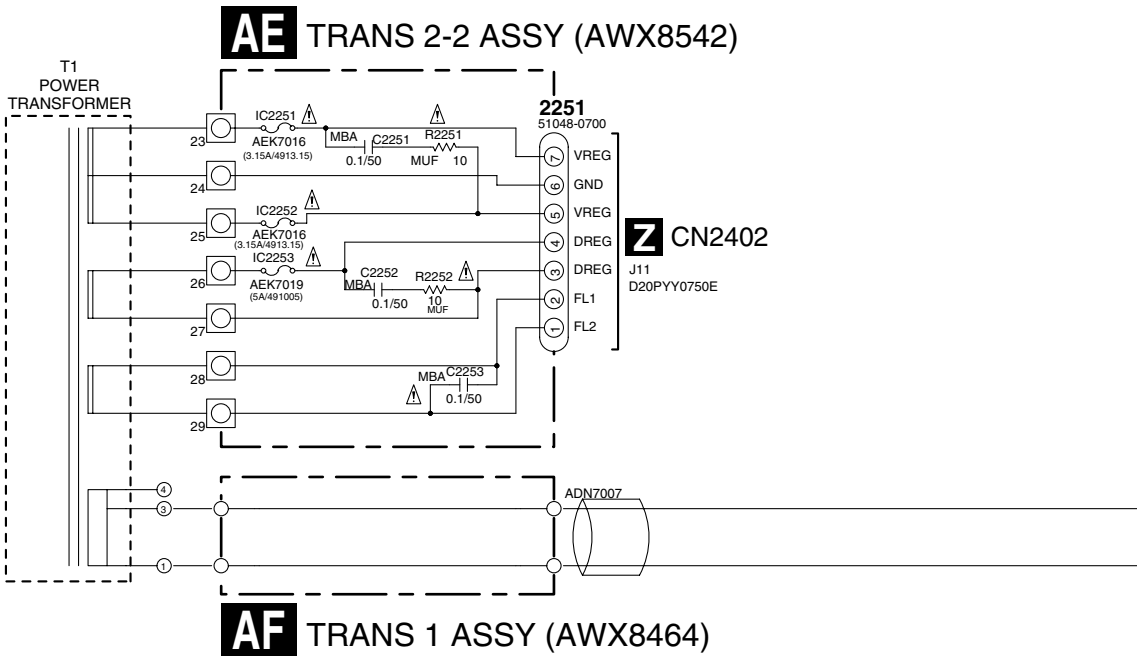
AA AB AC AD


AA SP/PS ASSY
(AWX8470)
W Y5
X Y6
CN4605
AKC7002
CN4606
AKC7002
+VL
AMP-G
-VL
+55.7V
-55.7V
AMP G
Y13
CN4601
AKC7008
FL
NC
W Y2
CN4602
AKC7005
C
FR
X Y Y1
CN4603
AKC7009
SBL
SL
W Y3
CN4604
AKC7010
SBR
SR
X Y4
4601
51048-0600
GG
-15V
NECK
REG
REG G
REG
J9
D20PYY0615E
4602
51048-0800
+15V
STG
ST+5.6V
W UP
J4602
D20PYY0830E
Z
CN2401
CN4613
KM200TA5
HP L
HP R
AG
CN2004
CN4610
NECK
RY A
RY HP
RY C/S
RY SB
AG
CN2003
CN4611
AKE7101
CHASSIS
CN4611 (1/2)
FRONT
CN4611 (2/2)
SURROUND
SURROUND BACK
CN4612 (1/2)
CN4612 (2/2)
CENTER
CN4612
AKE7102
SPEAKERS
RY4601 ASR7014
RY4602 ASR7014
RY4603 ASR7014
RY4604 ASR7014
RY4605 ASR7014
ATH1053 1.5u
JP stby
D4601-D4610 : 1SS355
Q4601 RN4903
Q4602 RN1903
Q4603 RN1903
RTF1167
(F)
(S)
(SB)
(C)
(HP)

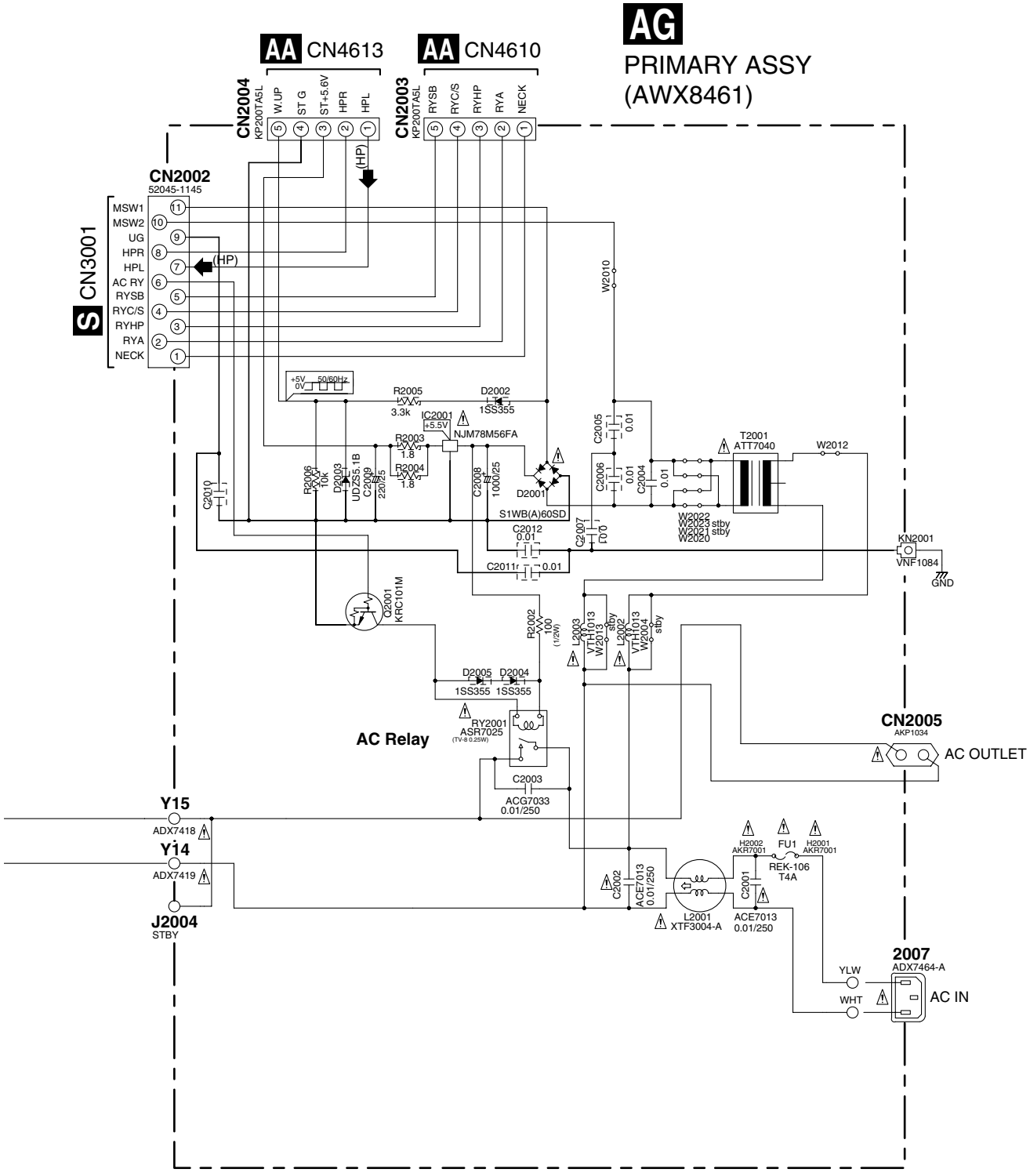
3.23 TRANS 2-2, TRANS 1 and PRIMARY ASSYS

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 4913.15 MFD, BY LITTELFUSE INK. FOR IC2251 AND IC2252.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491005 MFD, BY LITTELFUSE INK. FOR IC2253.



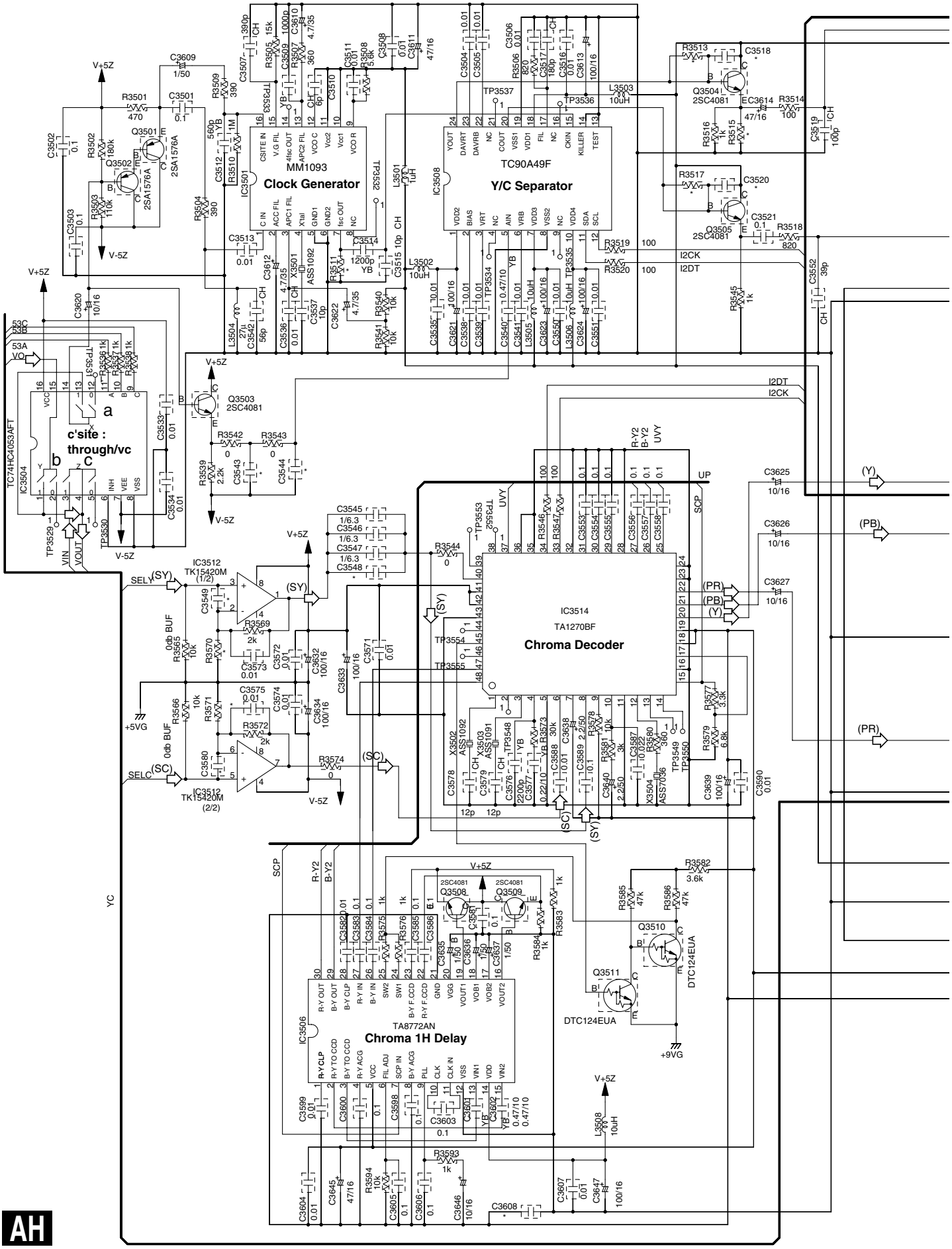
(HP) : AUDIO SIGNAL ROUTE (PHONES ch)



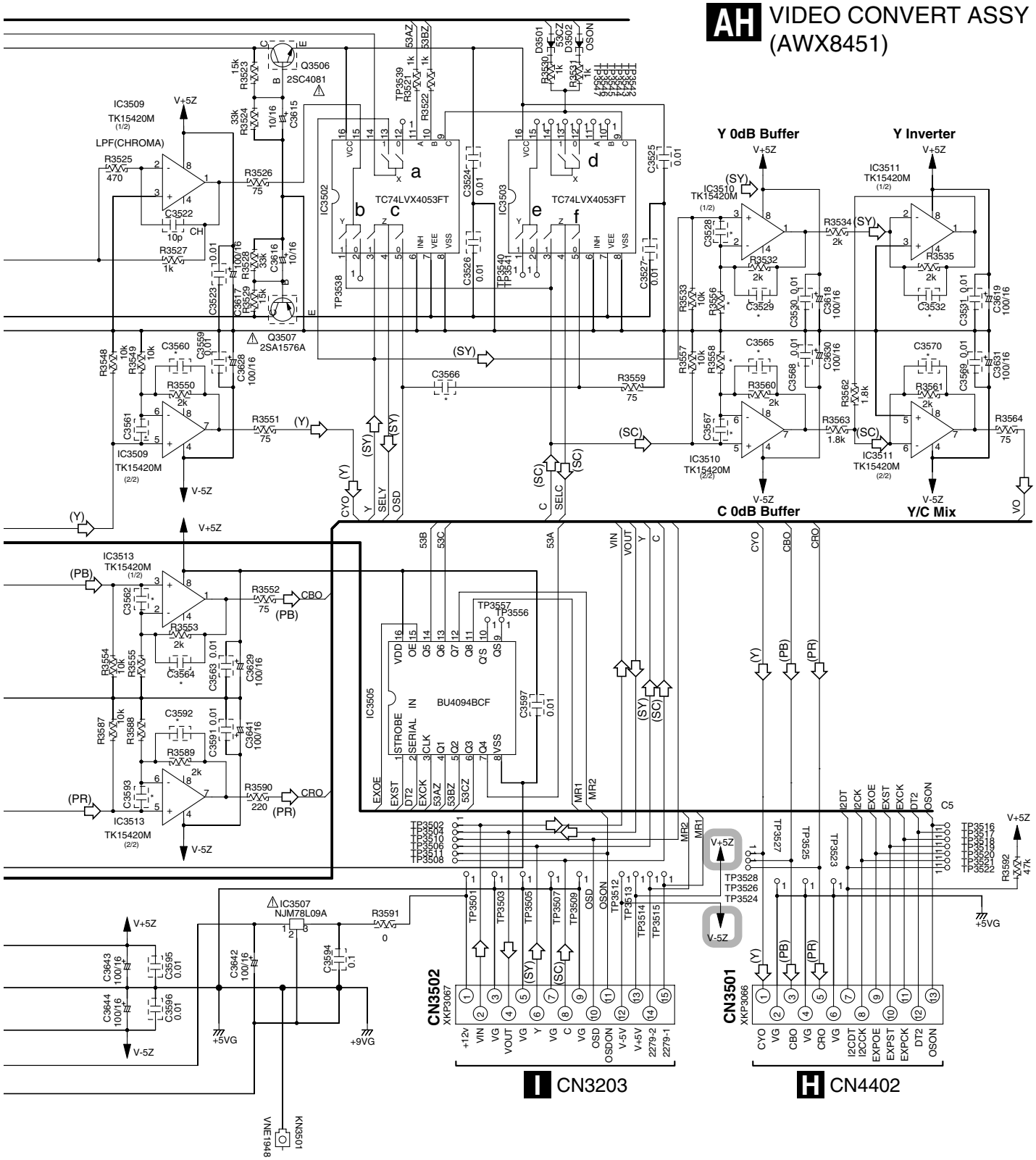
• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.24 VIDEO CONVERT ASSY



AH VIDEO CONVERT ASSY (AWX8451)



: VIDEO SIGNAL ROUTE
(SY) : VIDEO SIGNAL ROUTE (S VIDEO Y ch)
(SC) : VIDEO SIGNAL ROUTE (S VIDEO C ch)
(Y) : VIDEO SIGNAL ROUTE (Y)
(PB) : VIDEO SIGNAL ROUTE (P_B)
(PR) : VIDEO SIGNAL ROUTE (P_R)

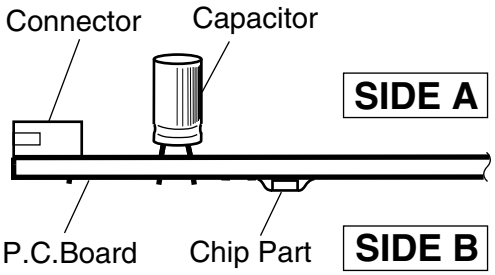
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

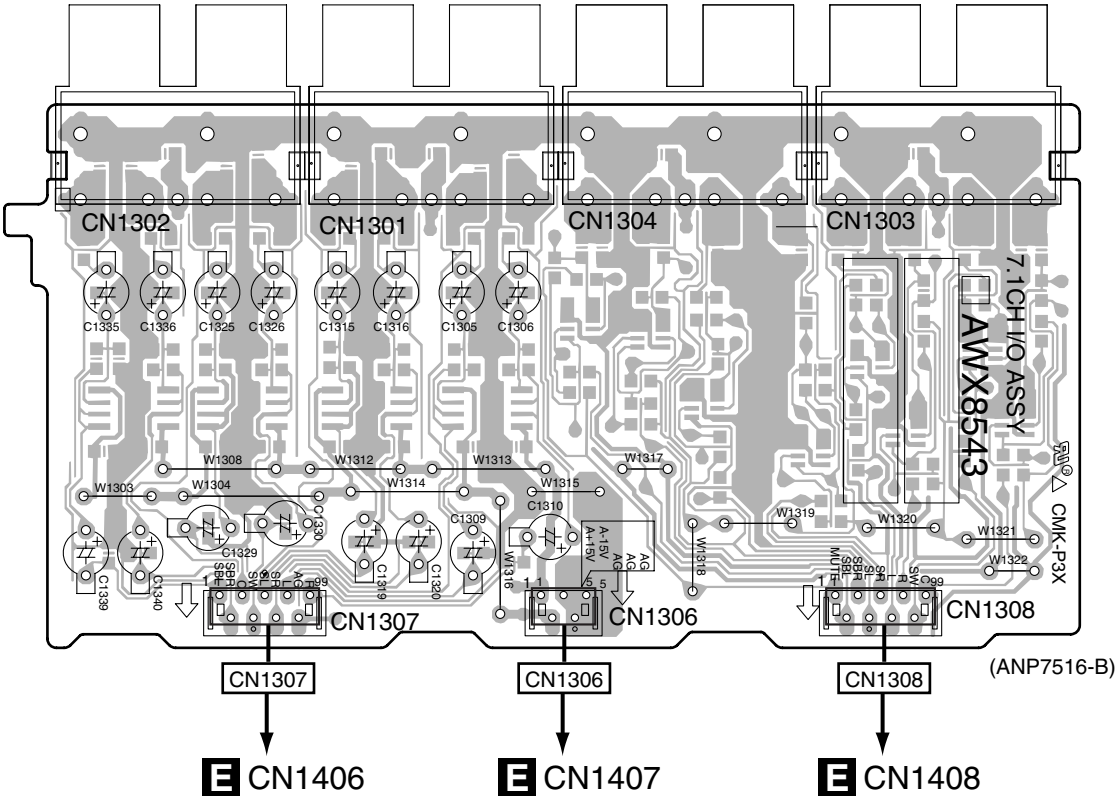
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 7.1CH I/O ASSY

SIDE A

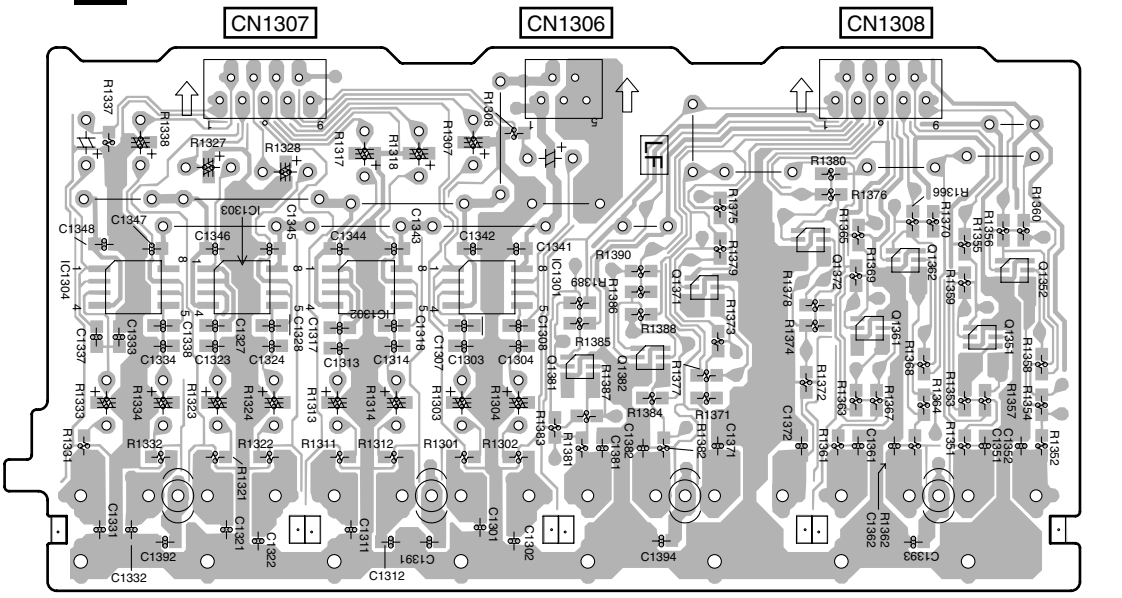
A 7.1CH I/O ASSY



SIDE A

SIDE B

A 7.1CH I/O ASSY



SIDE B

IC1304 IC1303 IC1302 IC1301 Q1371 Q1372 Q1362 Q1352
Q1381 Q1382 Q1361 Q1351

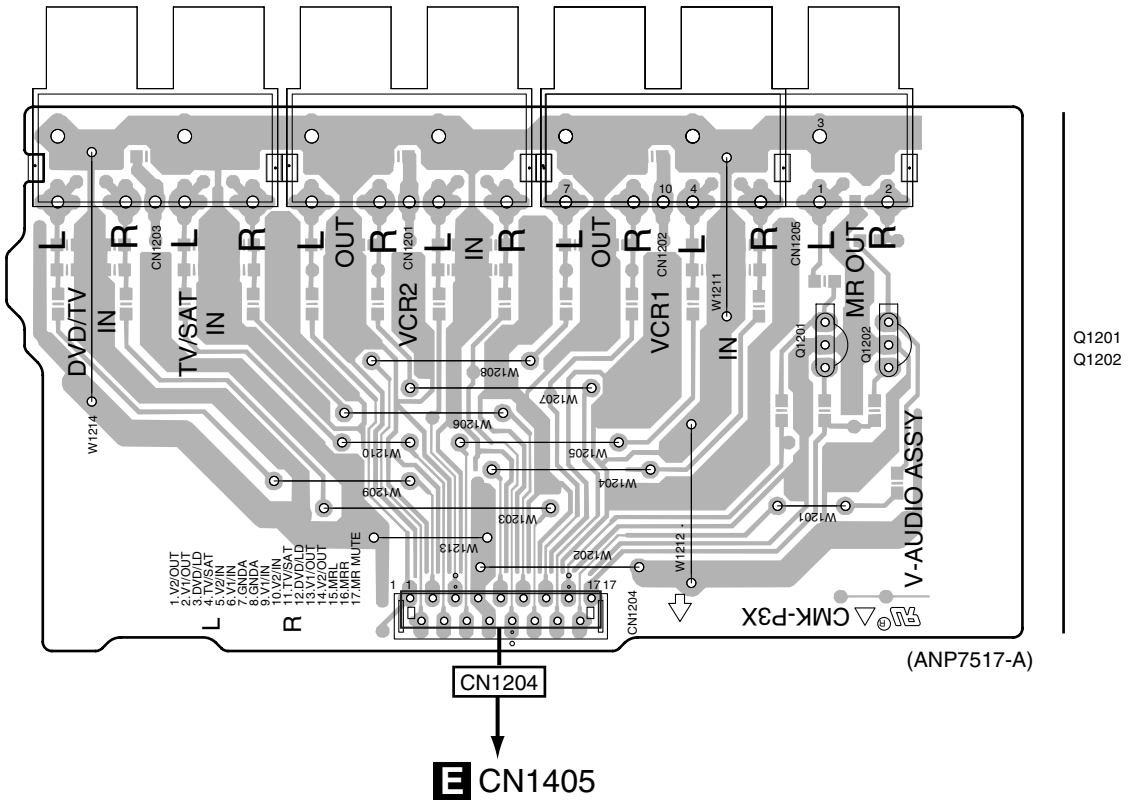
A **A**

4.2 V-AUDIO IN ASSY

SIDE A

SIDE A

B V-AUDIO IN ASSY



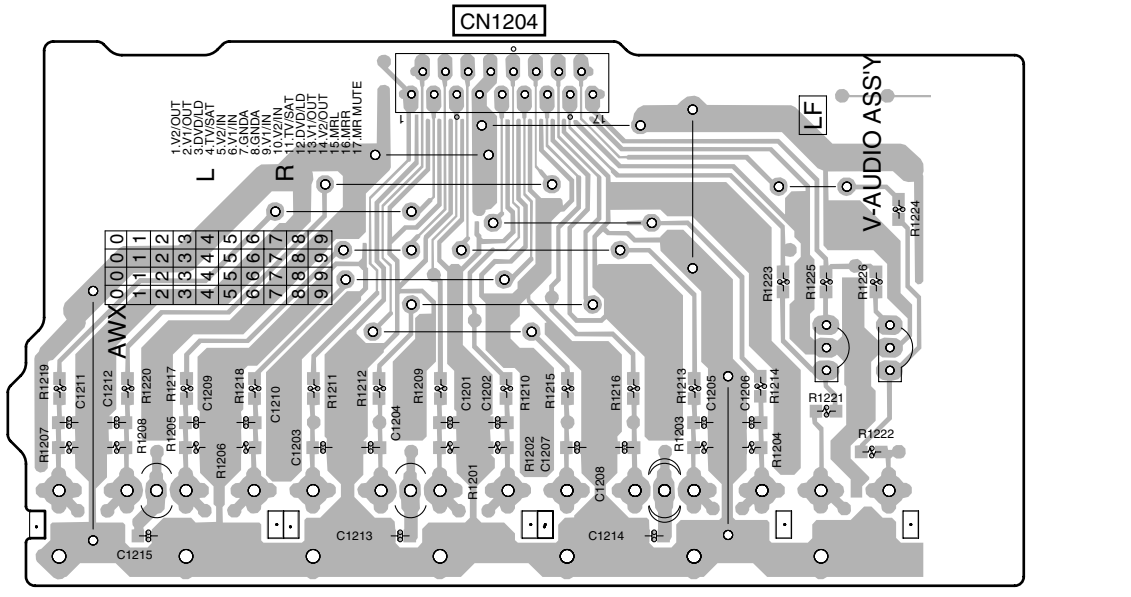
CN1204

E CN1405

SIDE B

SIDE B

B V-AUDIO IN ASSY



B **B**

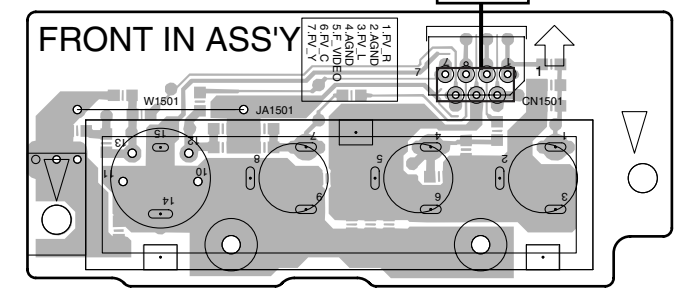
4.3 FRONT IN and OPTICAL IN ASSYS

SIDE A

SIDE A

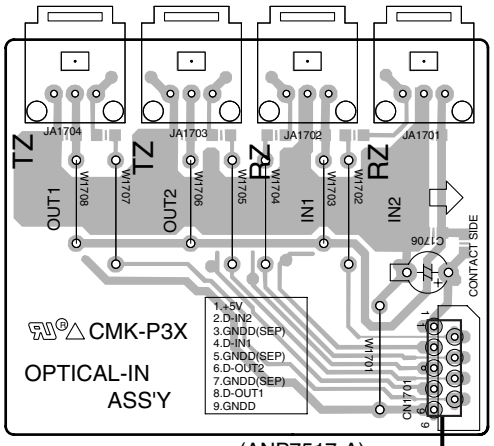
S CN3005

C FRONT IN ASSY



(ANP7517-A)

D OPTICAL IN ASSY



(ANP7517-A)

CN1701

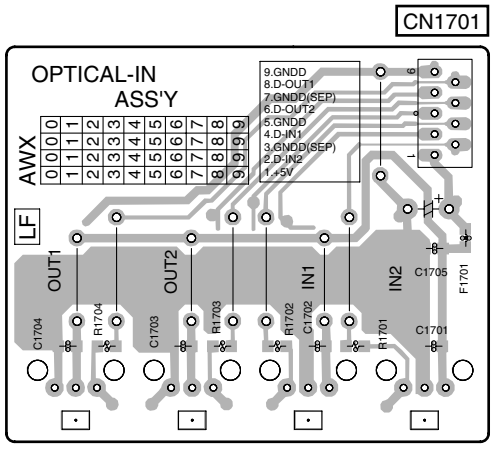
G CN1801

SIDE B

SIDE B

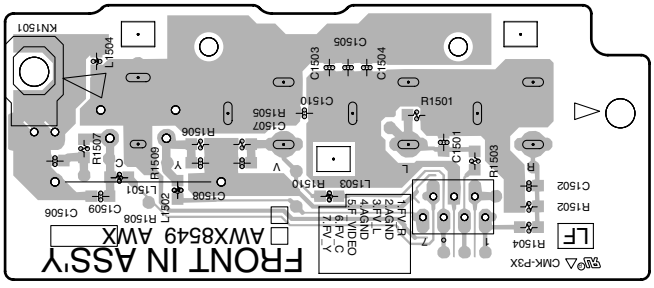
D OPTICAL IN ASSY

CN1701



(ANP7517-A)

C FRONT IN ASSY



CN1501

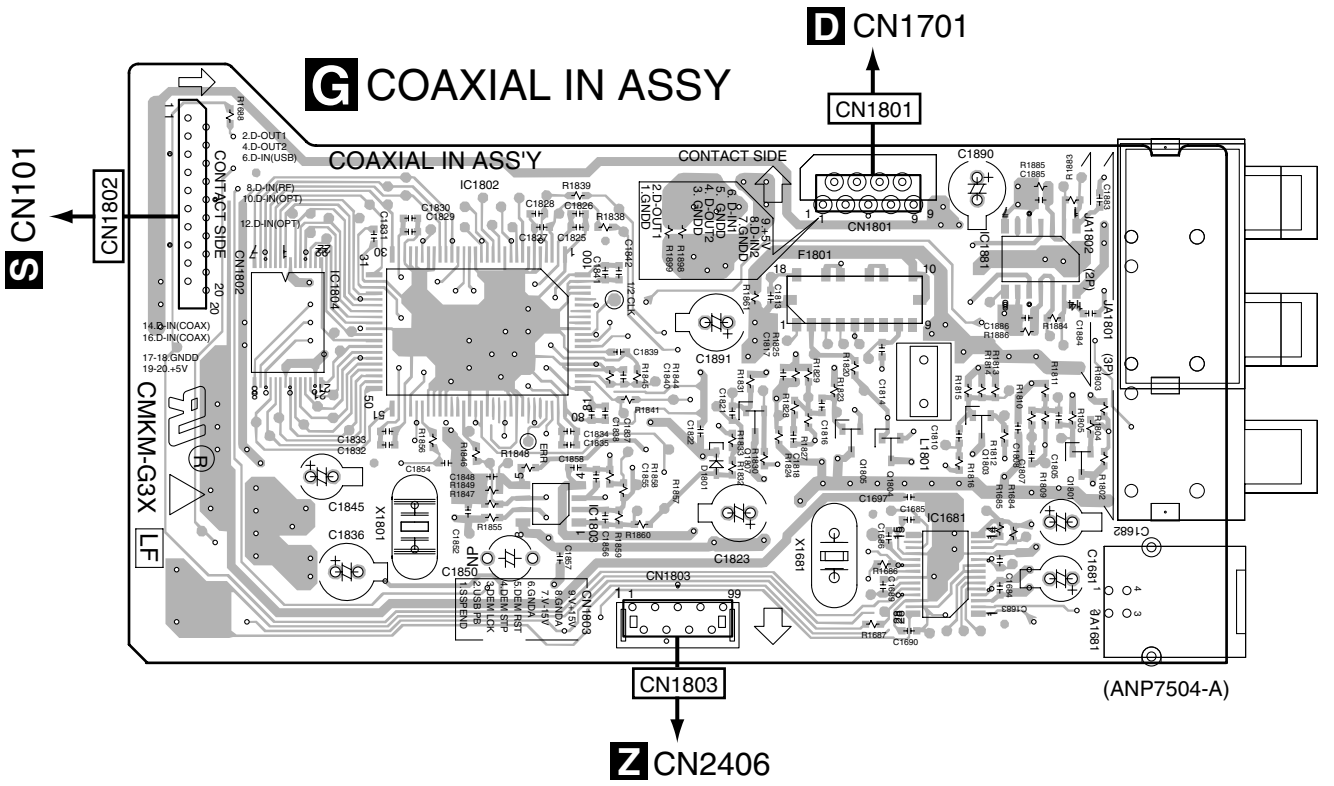
(ANP7517-A)

C **D**

C **D**

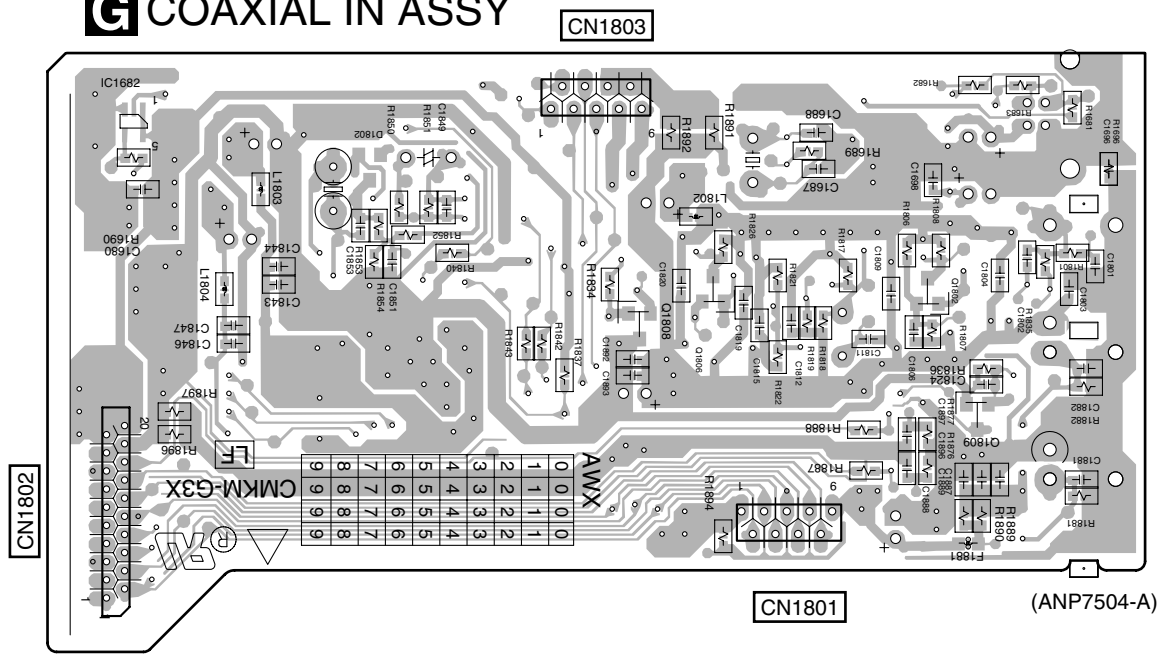
4.4 COAXIAL IN ASSY

SIDE A



IC1804 IC1802 IC1803 Q1807 Q1805 Q1804 Q1803 Q1801 IC1881 IC1681

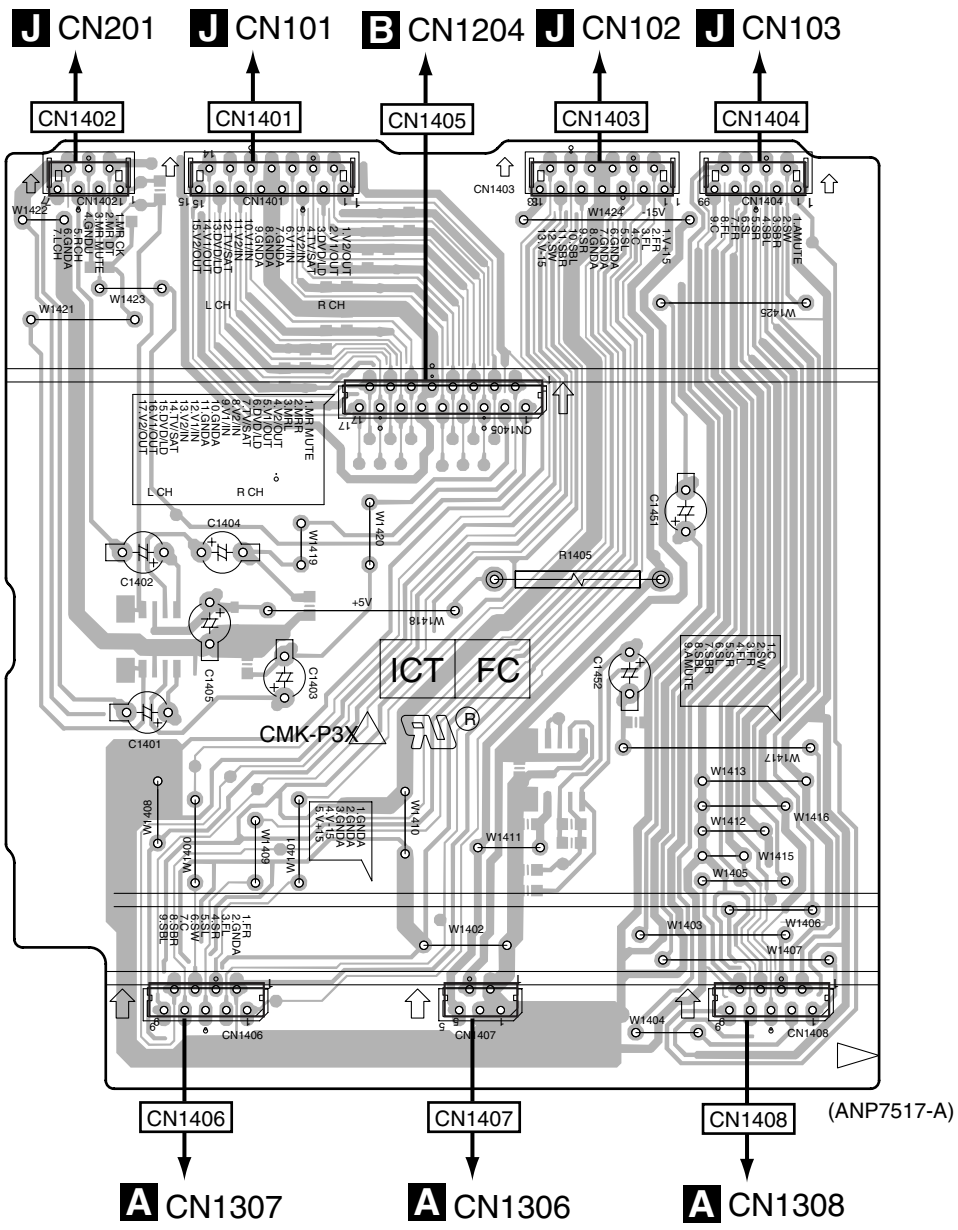
SIDE B



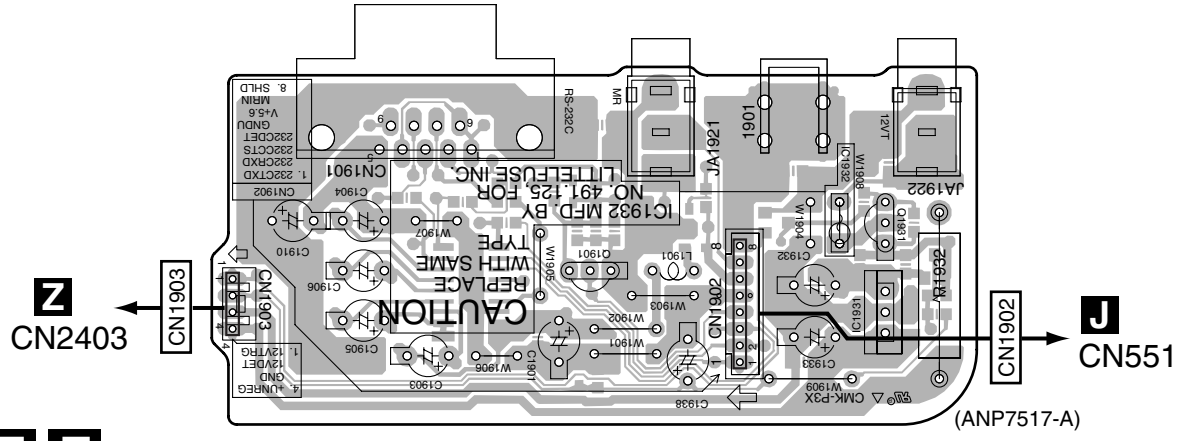
IC1682 Q1808 Q1806 Q1802 Q1809

4.5 INPUT CONNECT and 12V TRIGGER ASSYS

SIDE A **E** INPUT CONNECT ASSY **SIDE A**



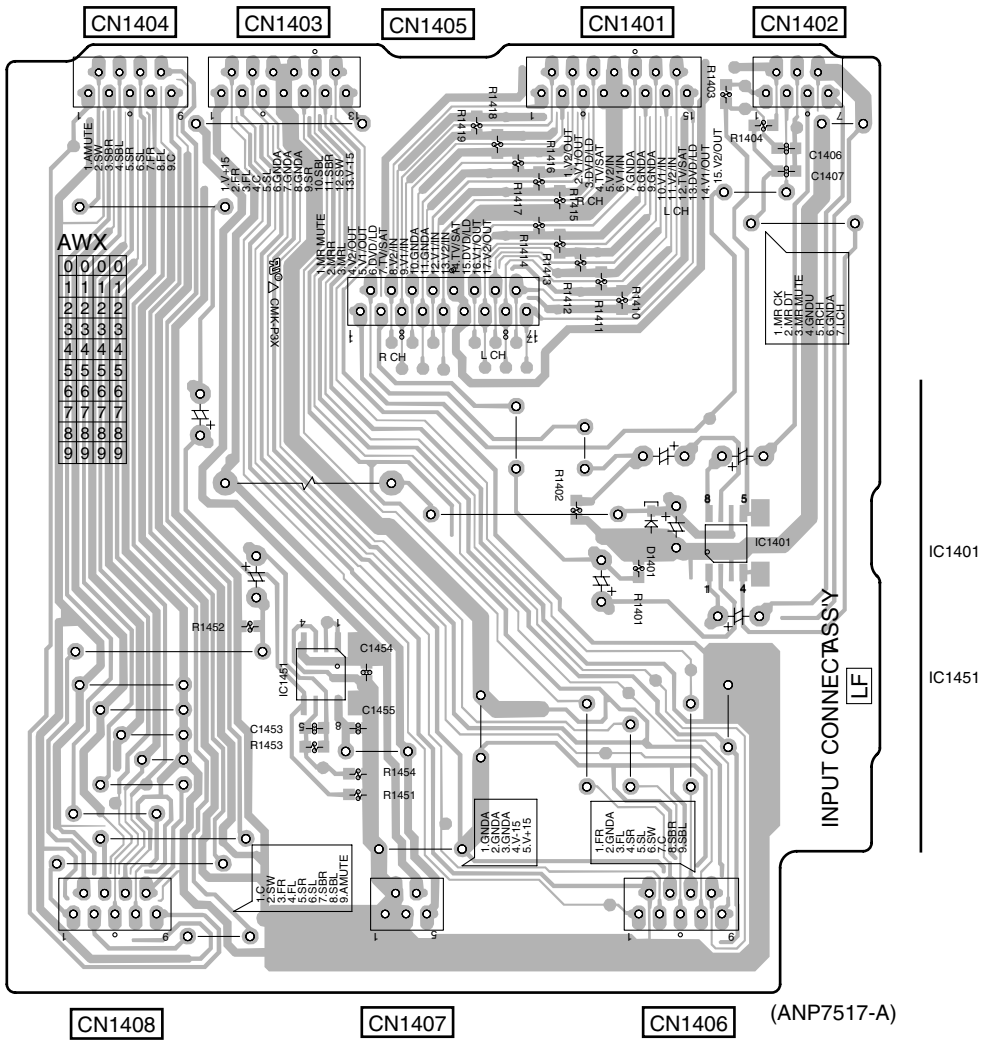
F 12V TRIGGER ASSY



E F **E F**

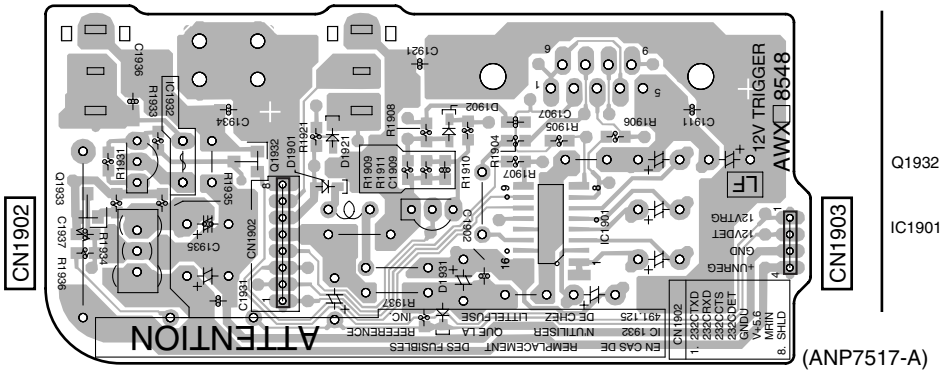
SIDE B

E INPUT CONNECT ASSY



(ANP7517-A)

F 12V TRIGGER ASSY



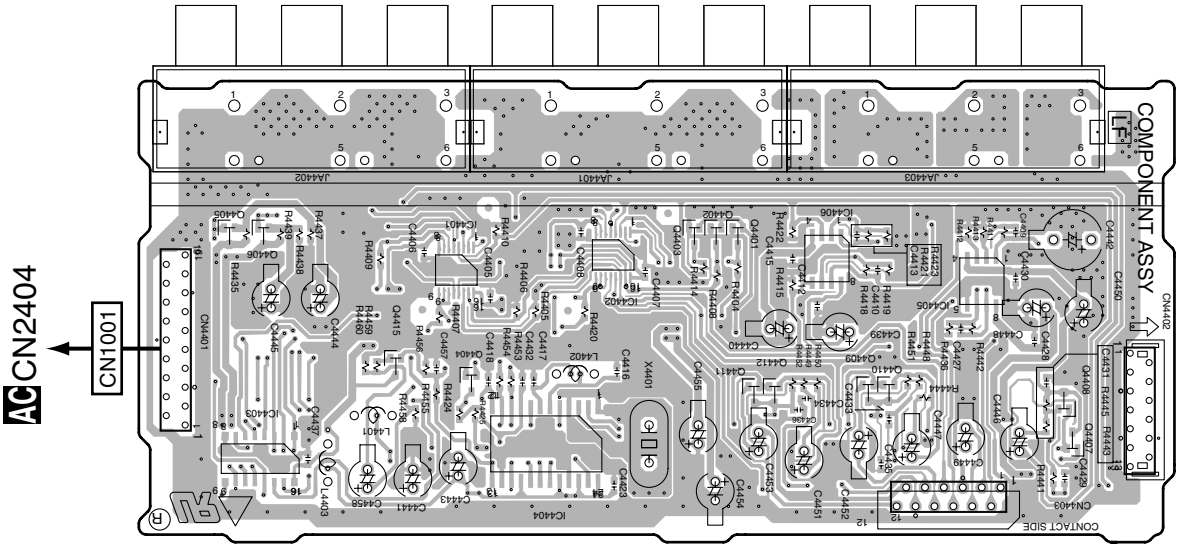
(ANP7517-A)

4.6 COMPONENT ASSY

SIDE A

SIDE A

H COMPONENT ASSY



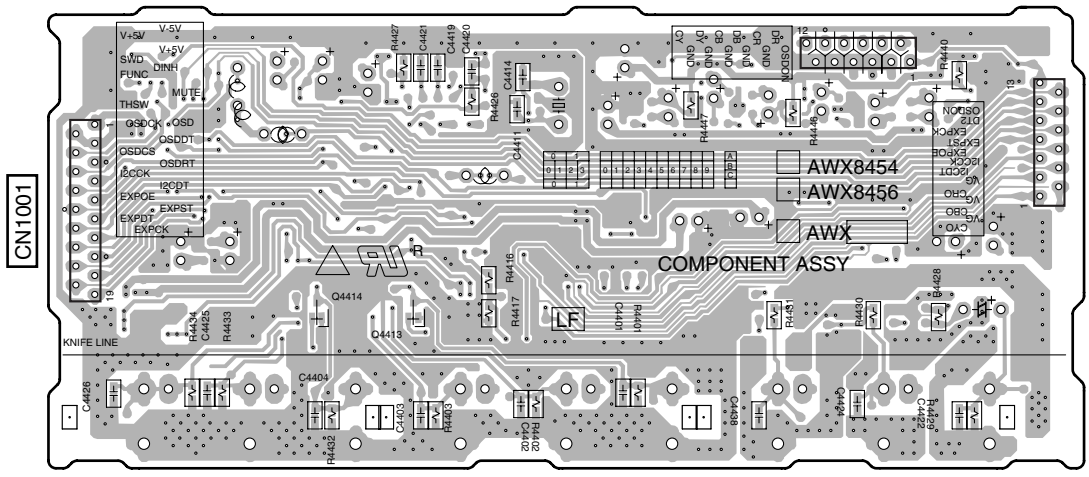
(ANP7505-A)

	IC4403	IC4404	Q4402	Q4401	Q4409	IC4405	Q4407
Q4405	Q4406	IC4402	Q4413	Q4411	Q4410		Q4408
				Q4412	IC4406		

SIDE B

SIDE B

H COMPONENT ASSY



(ANP7505-A)

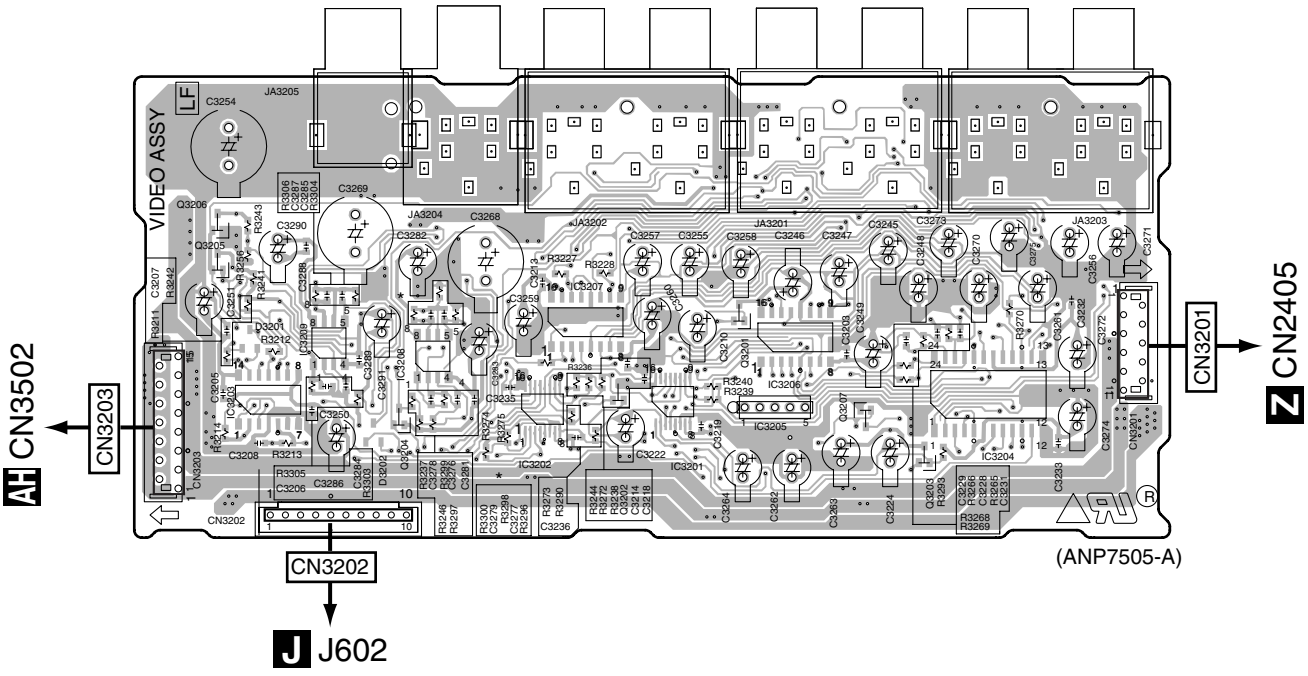
Q4414 Q4413

4.7 VIDEO ASSY

SIDE A

SIDE A

I VIDEO ASSY

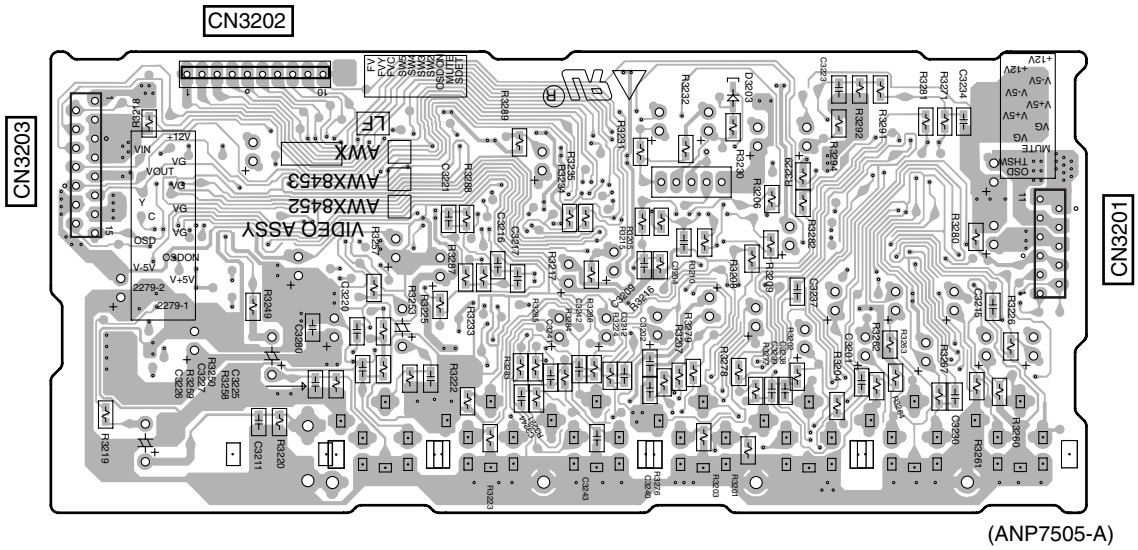


Q3205 Q3206 | IC3209 | IC3208 | IC3202 IC3207 | Q3202 | IC3201 | IC3205 IC3206 | Q3207

SIDE B

SIDE B

I VIDEO ASSY



A

B

C

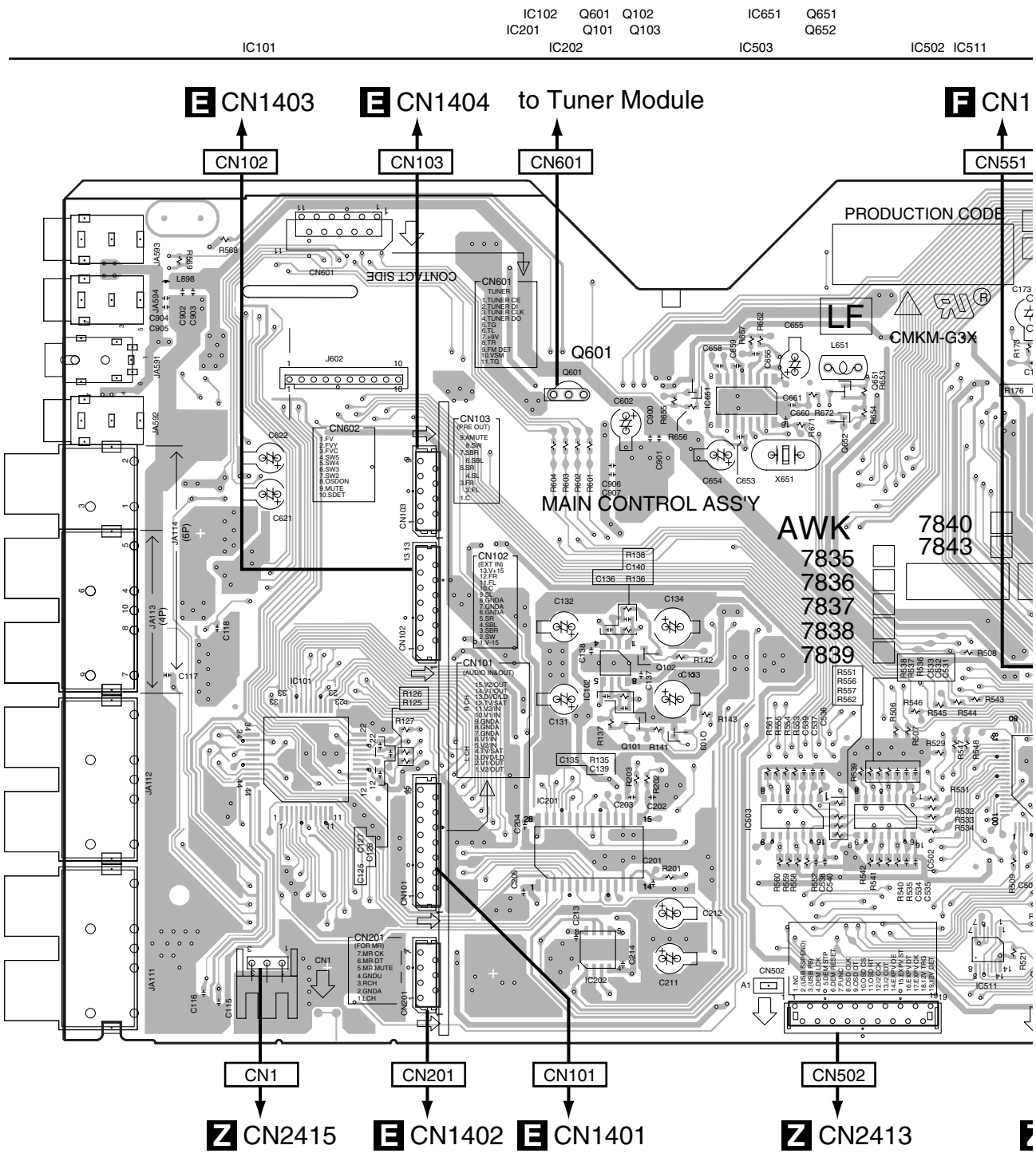
D

E

F

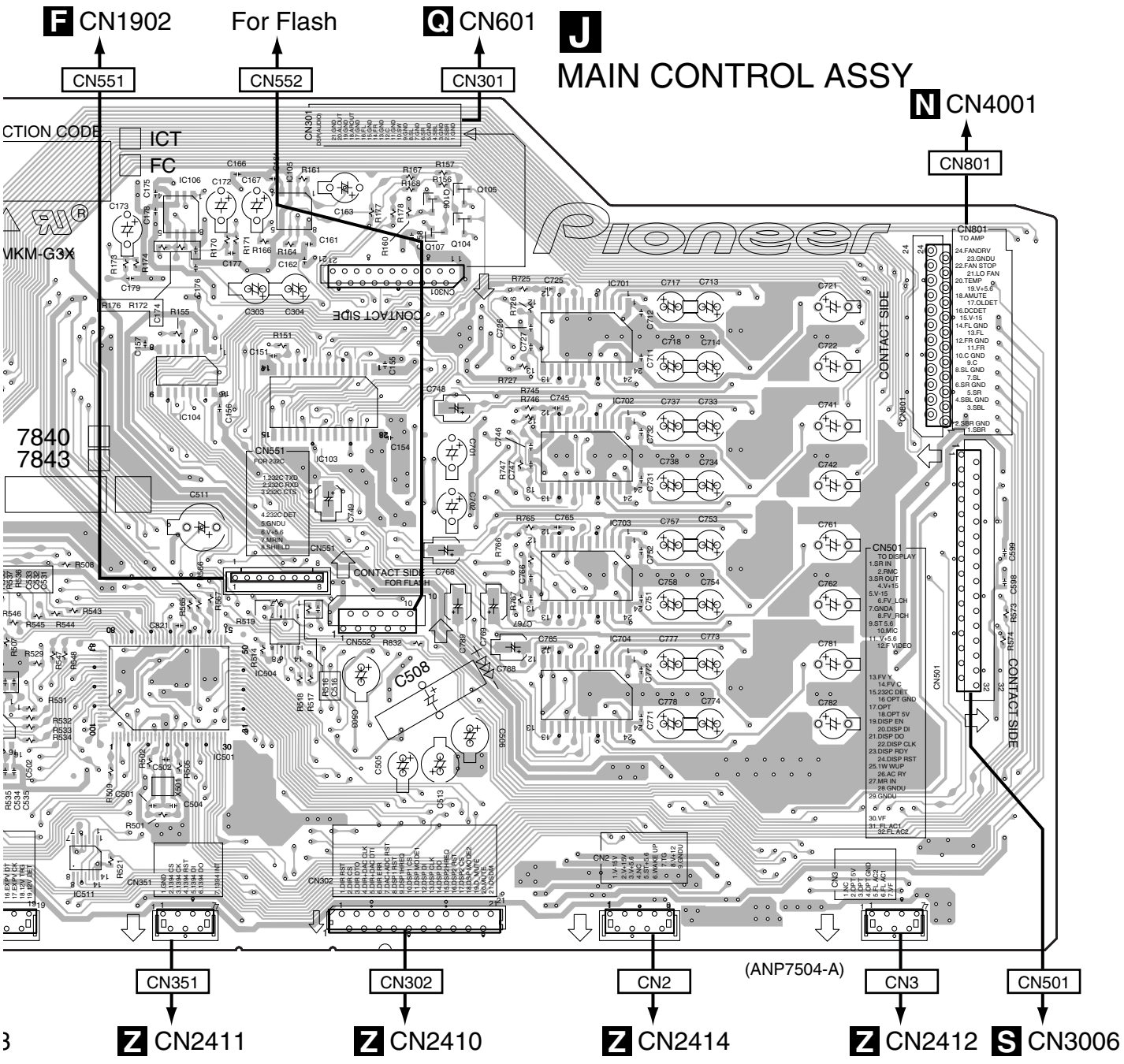
4.8 MAIN CONTROL ASSY

SIDE A



SIDE A

IC502 IC511 IC501 IC104 IC106 IC504 IC105 IC103 Q107 Q104 Q106 Q105 IC702 IC701 IC704 IC703

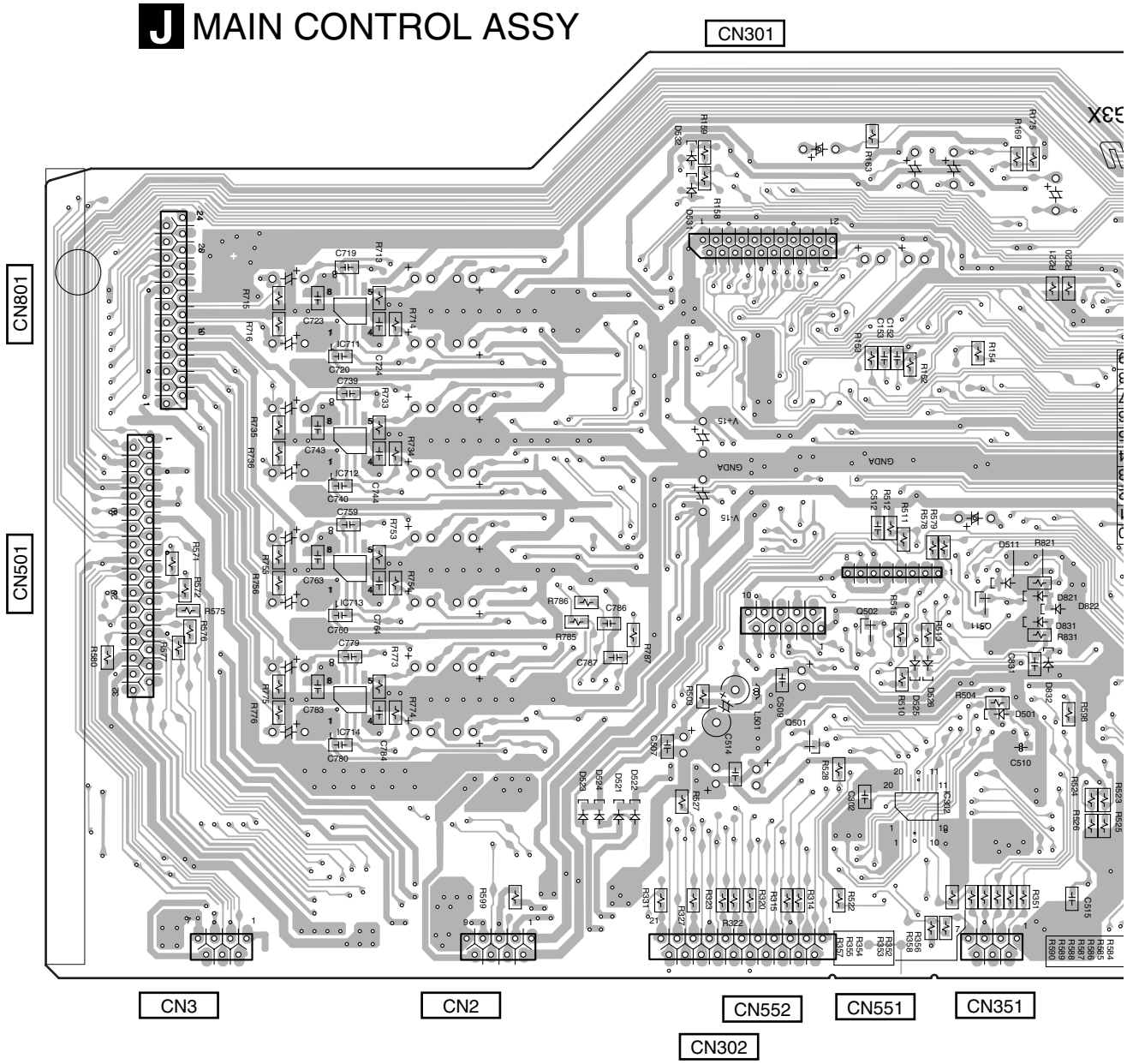


SIDE B

IC711
IC712
IC713
IC714

Q501 IC302 Q511

J MAIN CONTROL ASSY



SIDE B

A

B

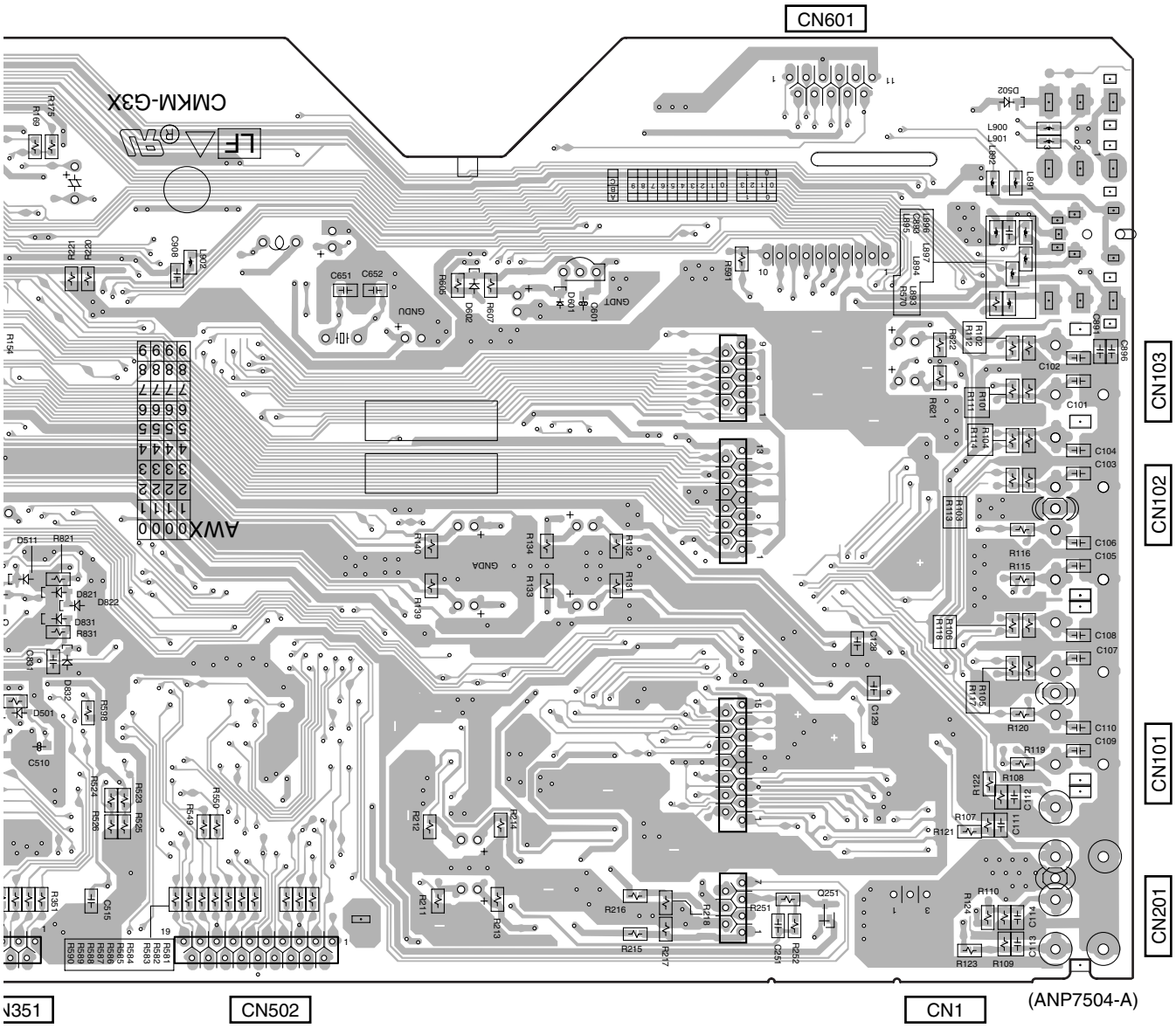
C

D

E

F

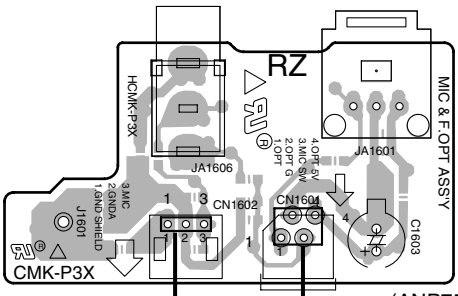
Q251



4.9 MIC & F. OPT IN, MIC AMP and DSP CONNECTION ASSYS

SIDE A **SIDE A**

K MIC & F.OPT IN ASSY

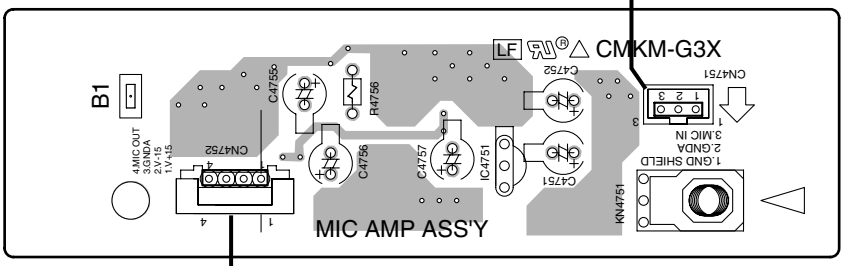


CN1602 CN1601

S CN3004

L MIC AMP ASSY

CN4751



CN4752

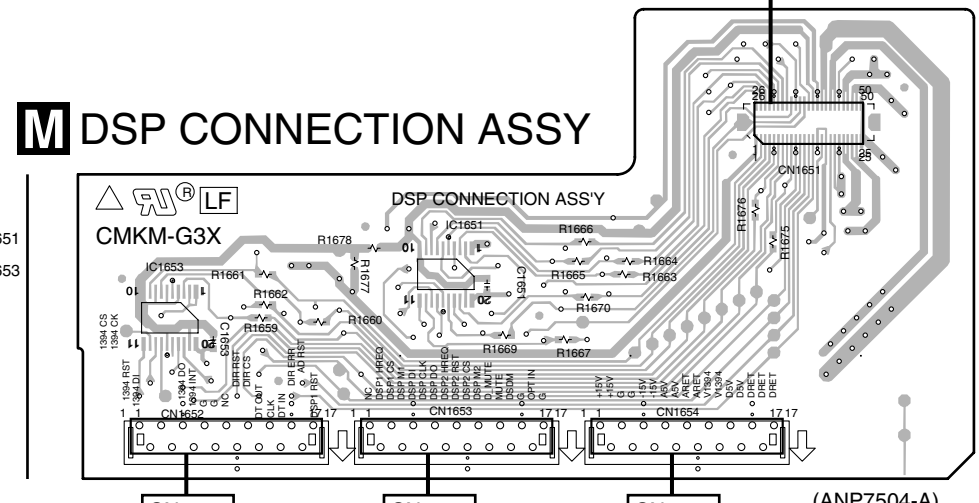
IC4751

S 3008

M DSP CONNECTION ASSY

Q CN102

CN1651



CN1652 CN1653 CN1654

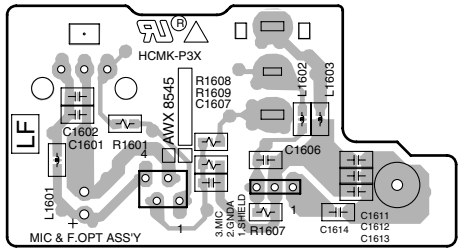
Z CN2407 Z CN2408 Z CN2409

K L M **K L M**

SIDE B

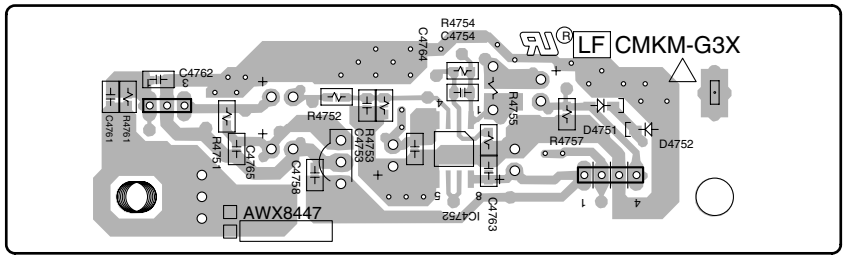
SIDE B

K MIC & F.OPT IN ASSY



CN1601 CN1602 (ANP7516-B)

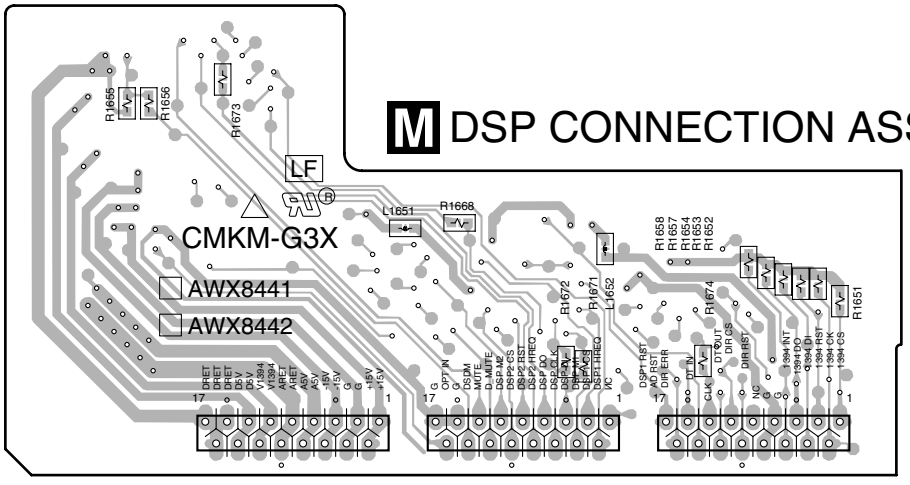
L MIC AMP ASSY



CN4752 (ANP7504-A)

IC4752

M DSP CONNECTION ASSY



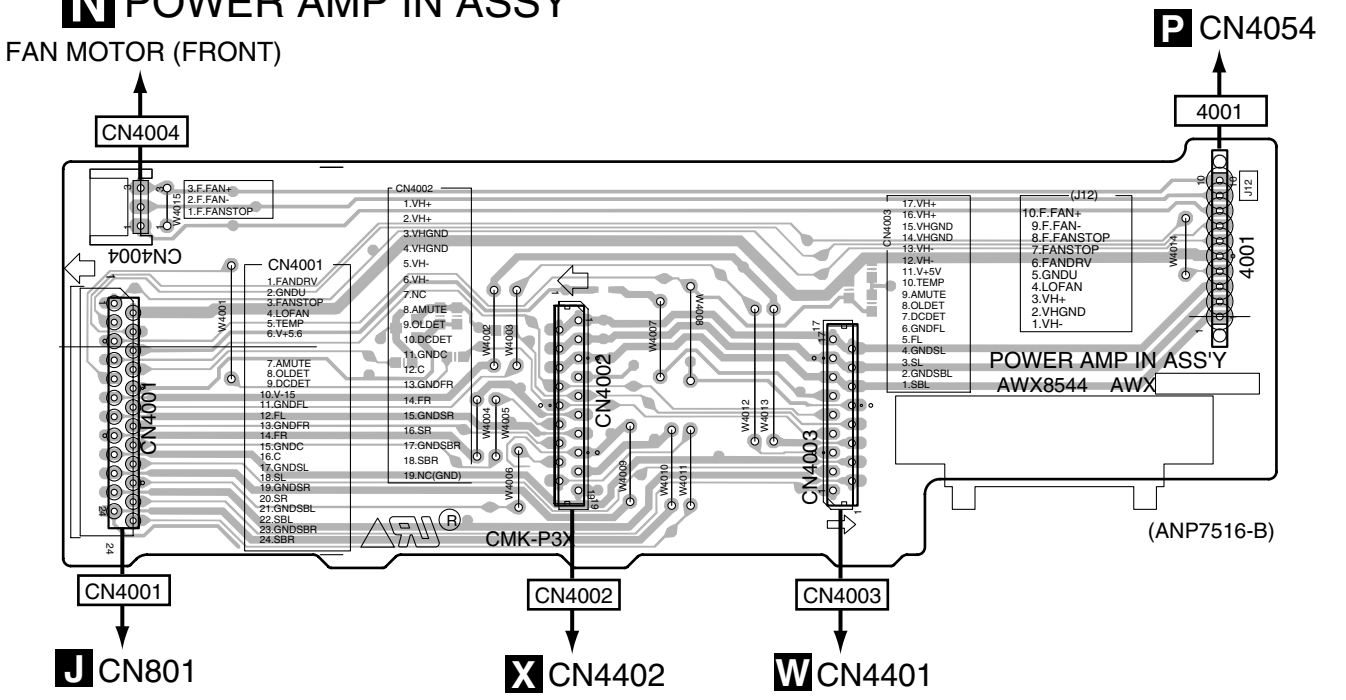
(ANP7504-A) CN1654 CN1653 CN1652

4.10 POWER AMP IN ASSY

A

SIDE A **SIDE A**

N POWER AMP IN ASSY



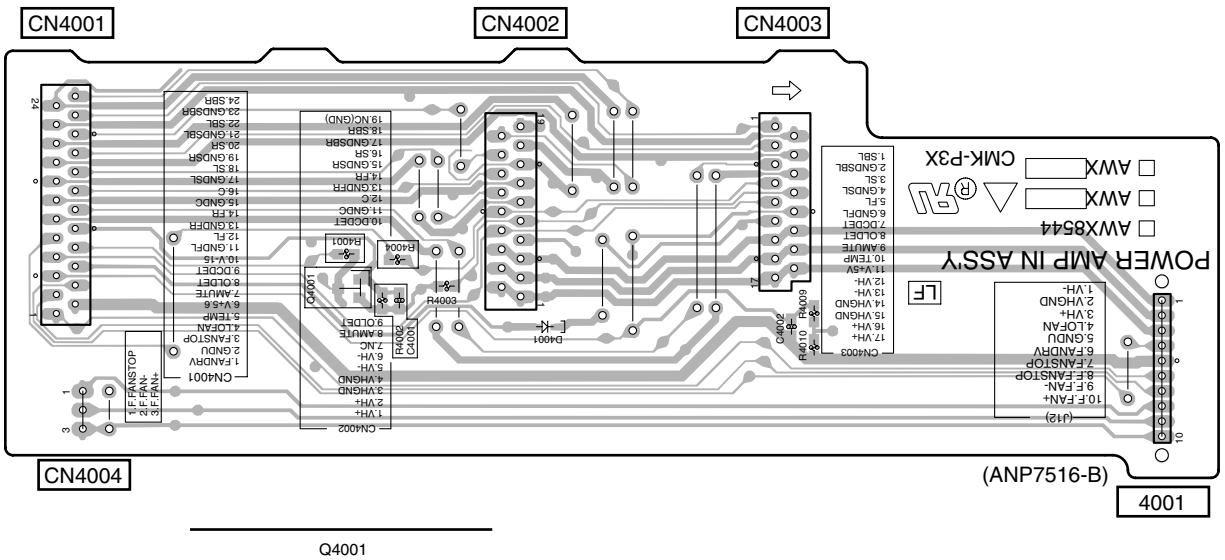
B

C

SIDE B **SIDE B**

D

N POWER AMP IN ASSY



E

F

N **N**

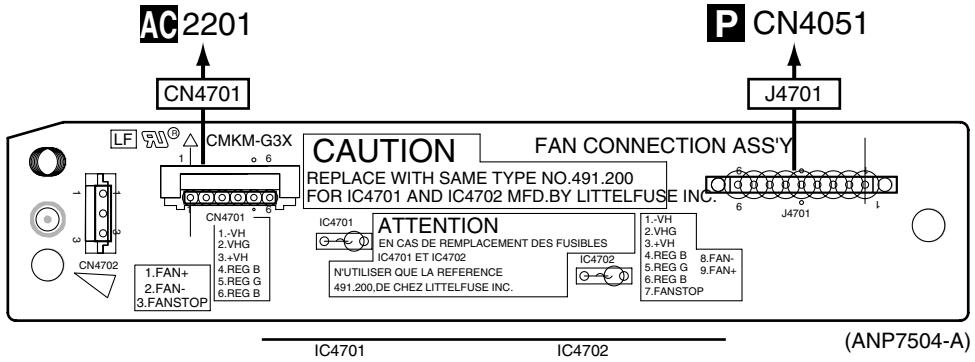
4.11 FAN CONNECTION ASSY

SIDE A **SIDE A**

A

B

O FAN CONNECTION ASSY

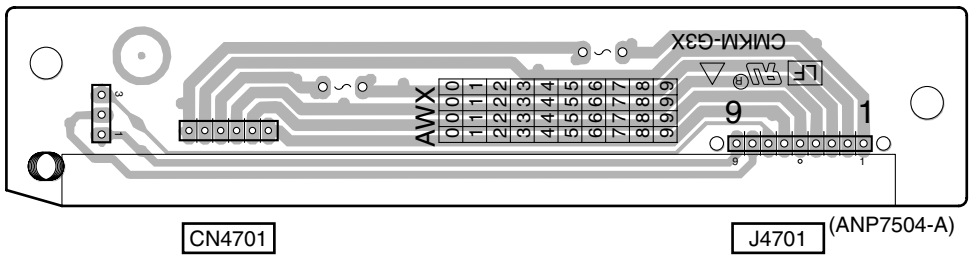


C

SIDE B **SIDE B**

D

O FAN CONNECTION ASSY

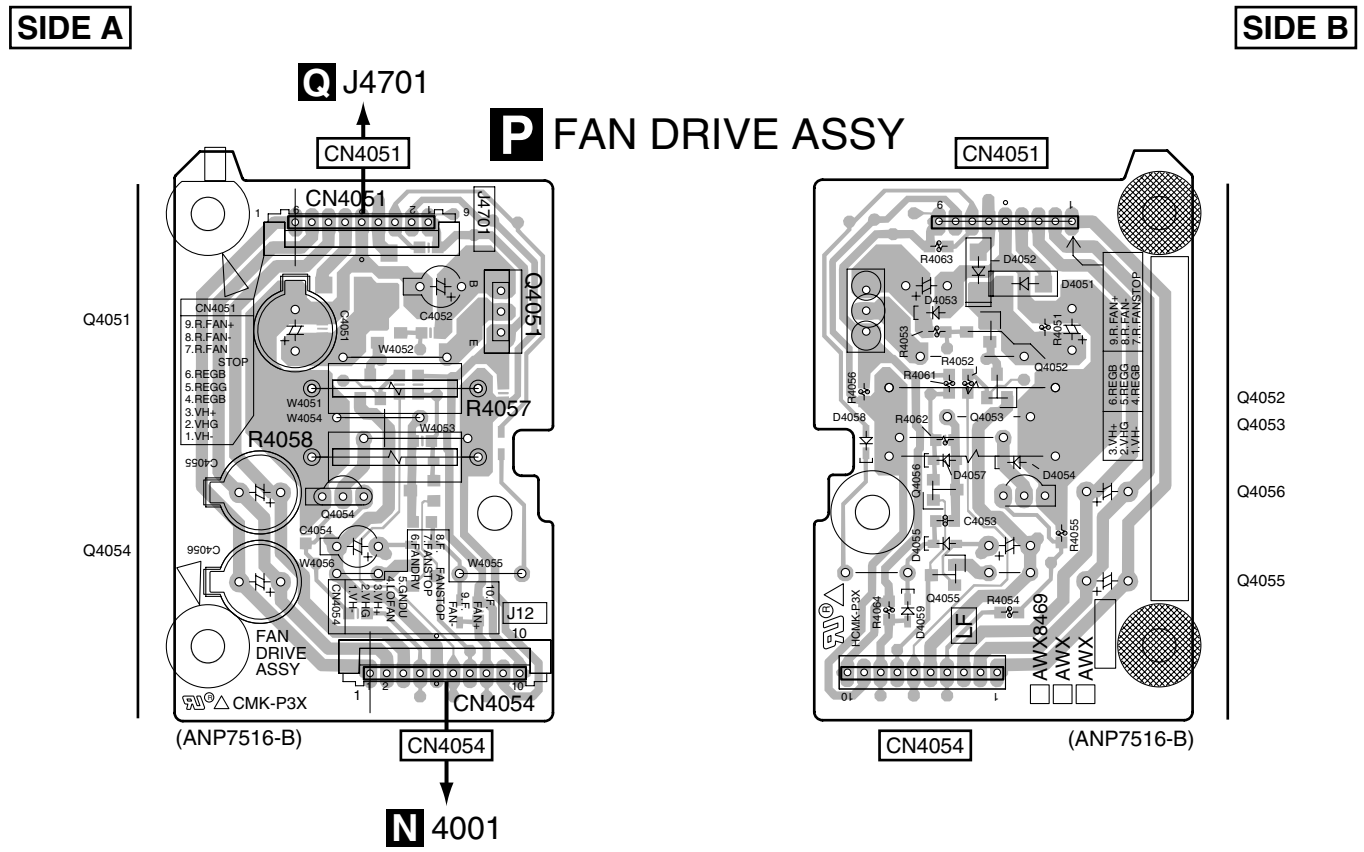


E

F

O O

4.12 FAN DRIVE ASSY



4.13 DSP ASSY

SIDE A

SIDE A

- This diagram has four layers.
  In the two middle layers, mainy Vcc and GND are connected.

Q DSP ASSY

J CN301

CN601

M CN1651

CN102

First Side(A)

AWX8249

AWX8489

1/4

DC FC

LF Pb

E88558(S)

IC901 IC561 IC621 IC521 IC471 IC301 IC305 IC302 IC306 IC304 IC701 IC201

Q971 Q972 Q684 IC661 Q683

CN101 CN702 CN701

(ANP7466-B)

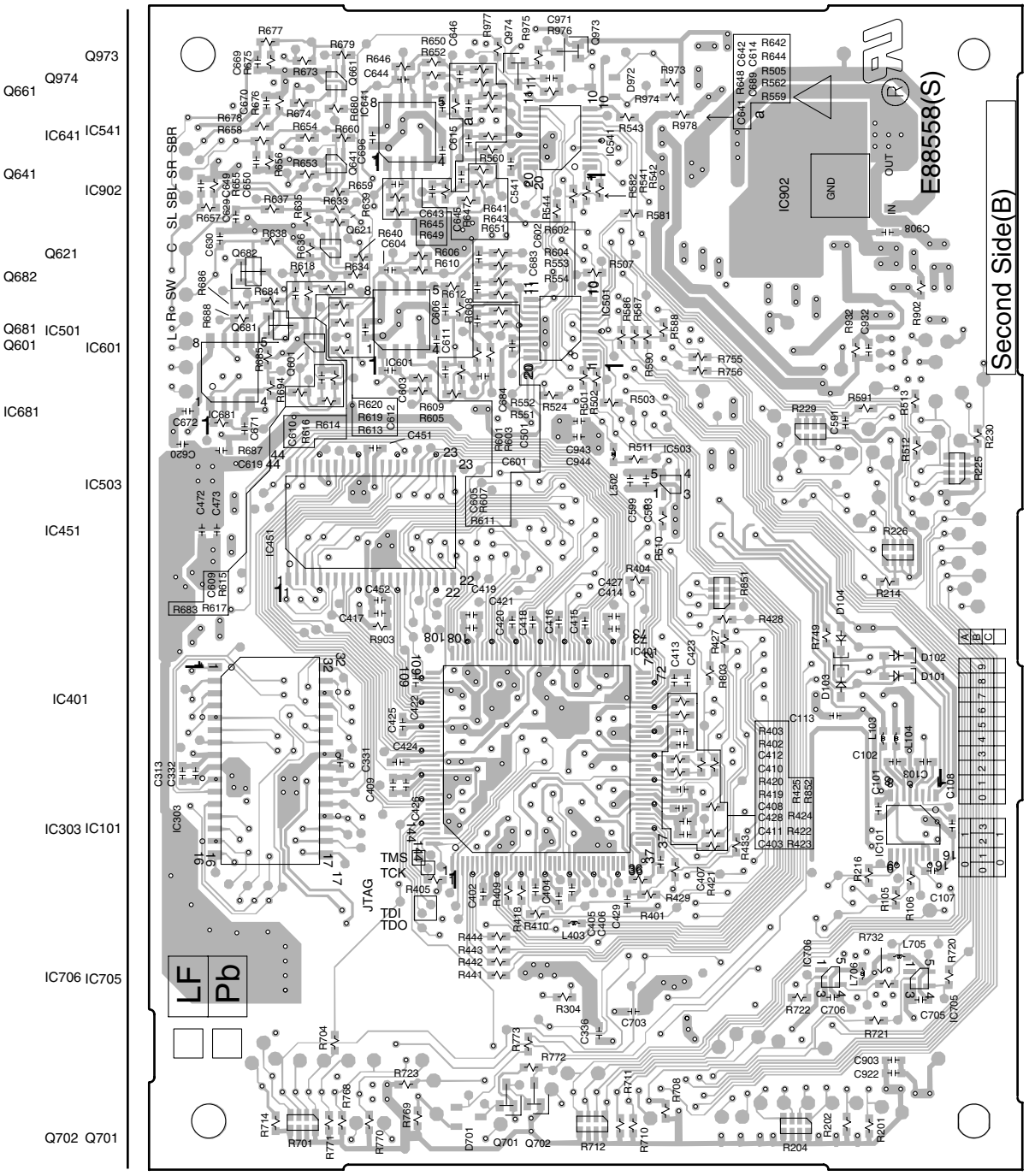
G CN1802 **R** CN402 **R** CN401

SIDE B

SIDE B

- This diagram has four layers.
  In the two middle layers, mainy Vcc and GND are connected.

Q DSP ASSY

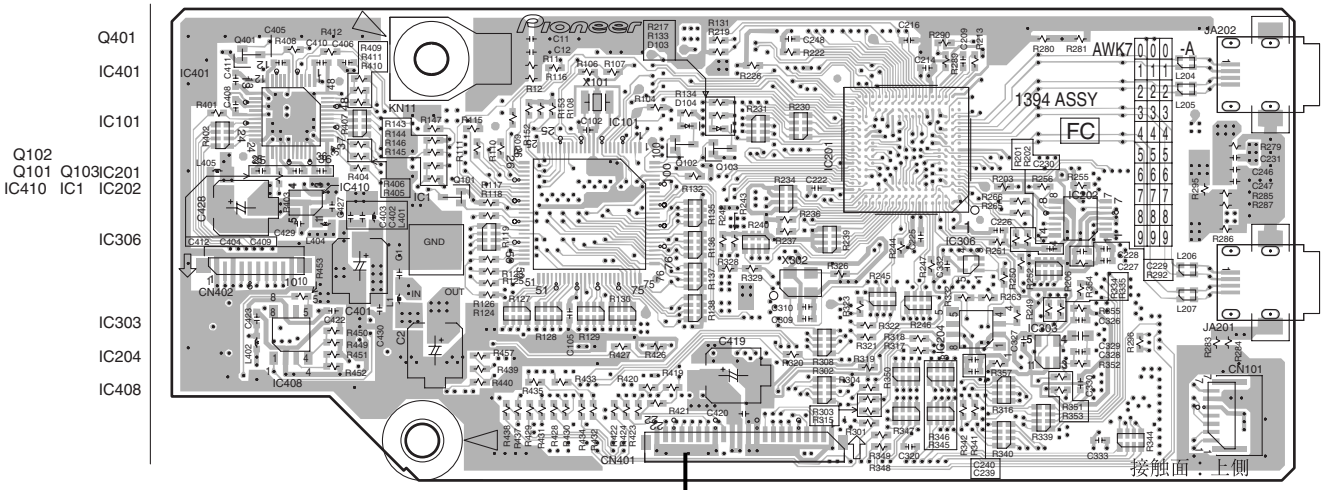


(ANP7466-A)

4.14 1394 ASSY

R 1394 ASSY

SIDE A

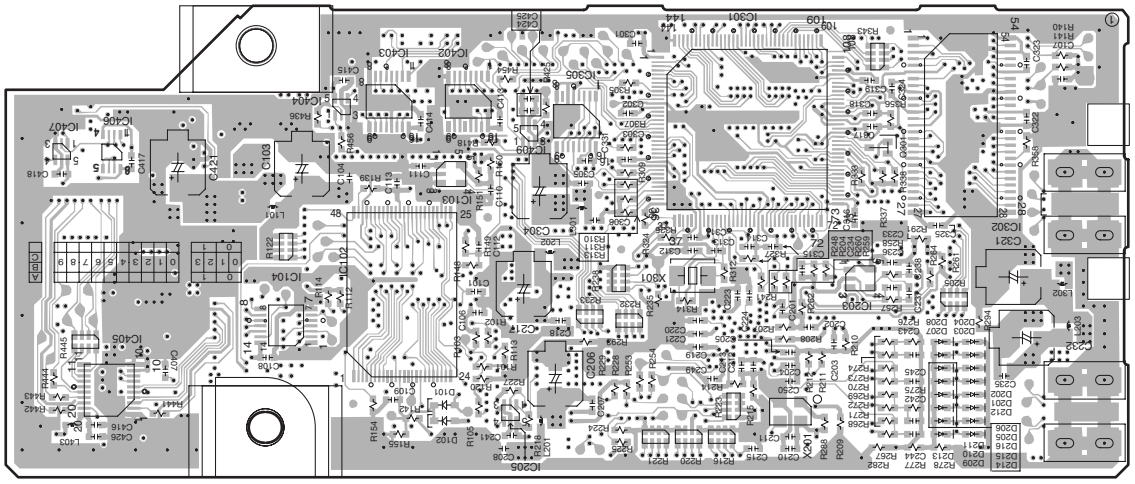


(ANP7489-A)

CN401

Q CN705

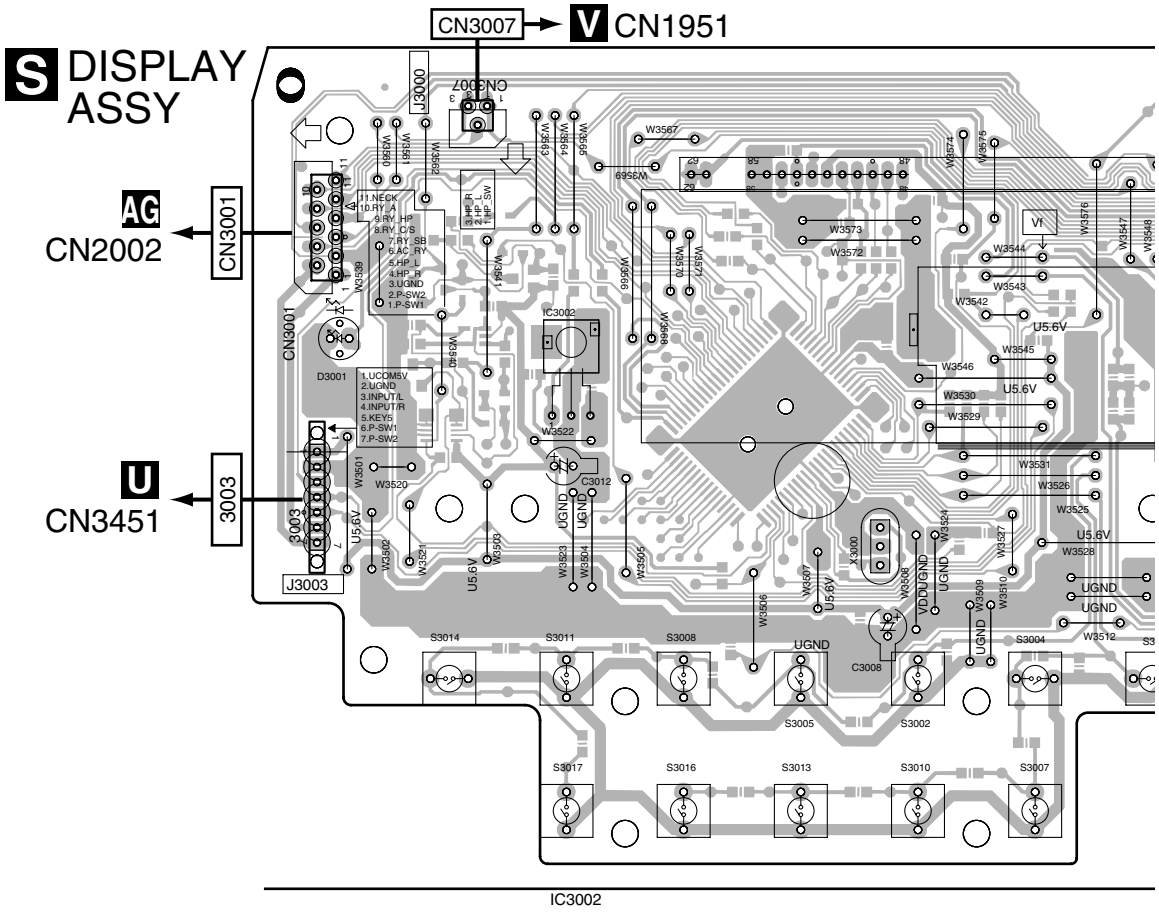
SIDE B



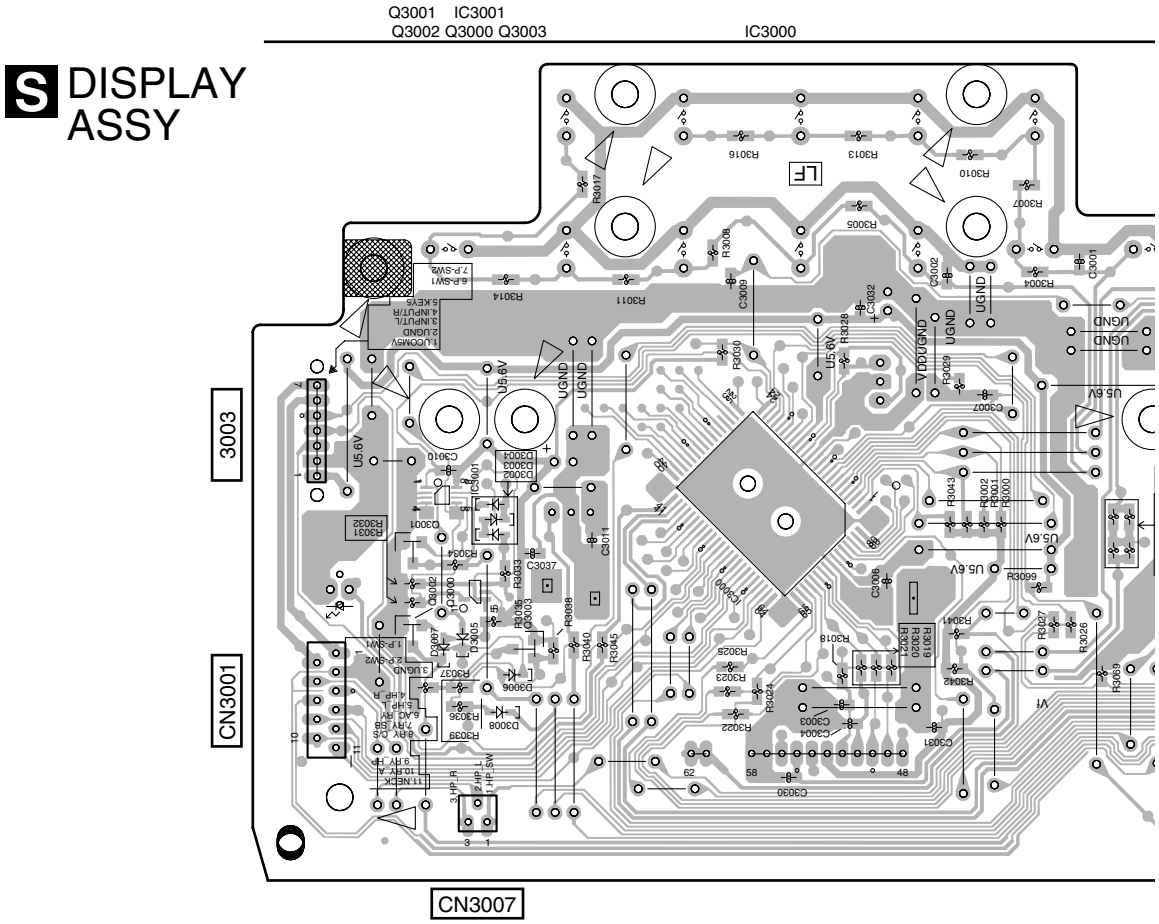
(ANP7489-A)

4.15 DISPLAY ASSY

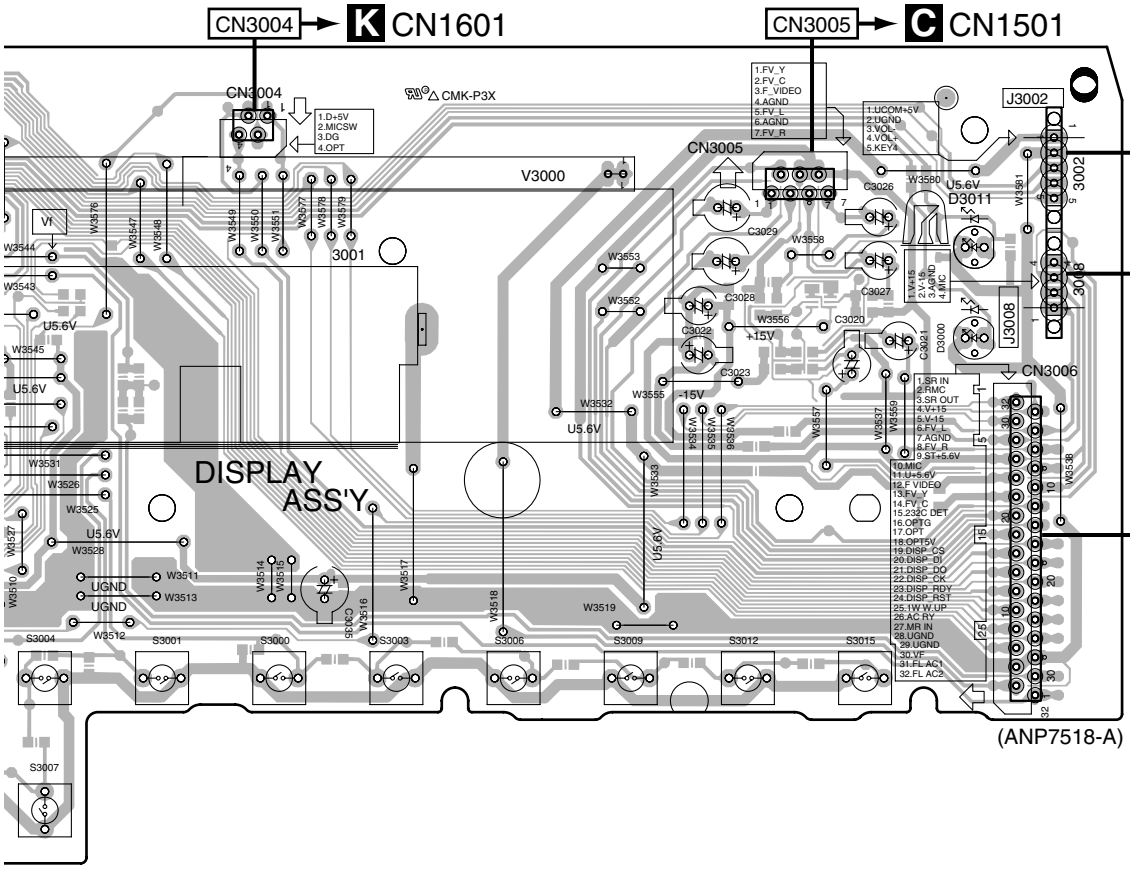
SIDE A



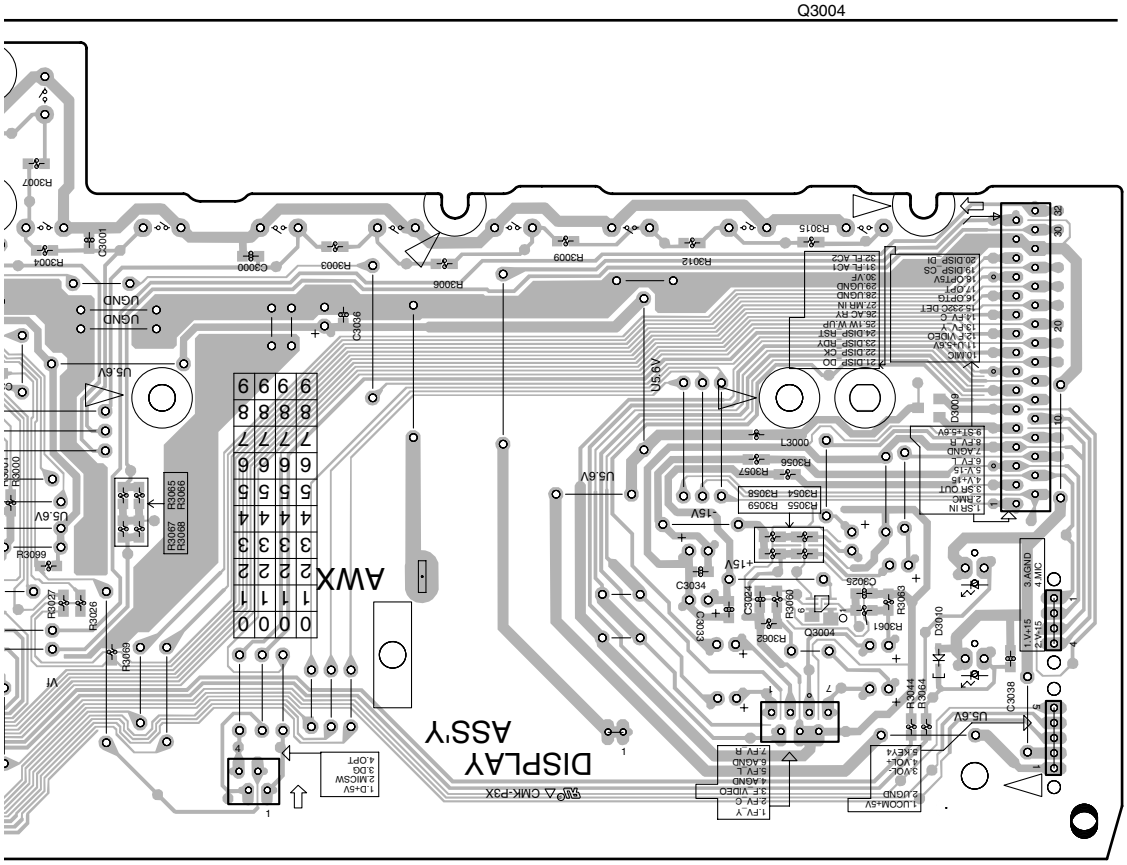
SIDE B



SIDE A


CN3004 → K CN1601
CN3005 → C CN1501
CN3004
CMK-P3X
1,D+5V
2,MICSW
3,DG
4,OPT
V3000
3001
CN3005
1,FV_Y
2,FV_C
3,F_VIDEO
4,AGND
5,FV_L
6,AGND
7,FV_R
1:UCOM+5V
2:UGND
3:VOL-
4:VOL+
5:KEY4
J3002
3002
T
CN3401
3008
L
CN4752
J3008
1:MIC
2:V-15
3:AGND
4:+15
CN3006
1,SR IN
2,RMC
3,SR OUT
4,V+15
5,V-15
6,FV_L
7,AGND
8,FV_R
9,ST+5.6V
10,MIC
11,U+5.6V
12,F VIDEO
13,FV_Y
14,FV_C
15,232C DET
16,OPTG
17,OPT
18,OPT5V
19,DISP_CS
20,DISP_DI
21,DISP_DO
22,DISP_CK
23,DISP_RDY
24,DISP_RST
25,1W W.UP
26,AC RY
27,MR IN
28,UGND
29,UGND
30,VF
31,FL AC1
32,FL AC2
CN3006
J
CN501
DISPLAY
ASS'Y
U5.6V
-15V
+15V
UGND
S3004
S3001
S3000
S3003
S3006
S3009
S3012
S3015
S3007
(ANP7518-A)

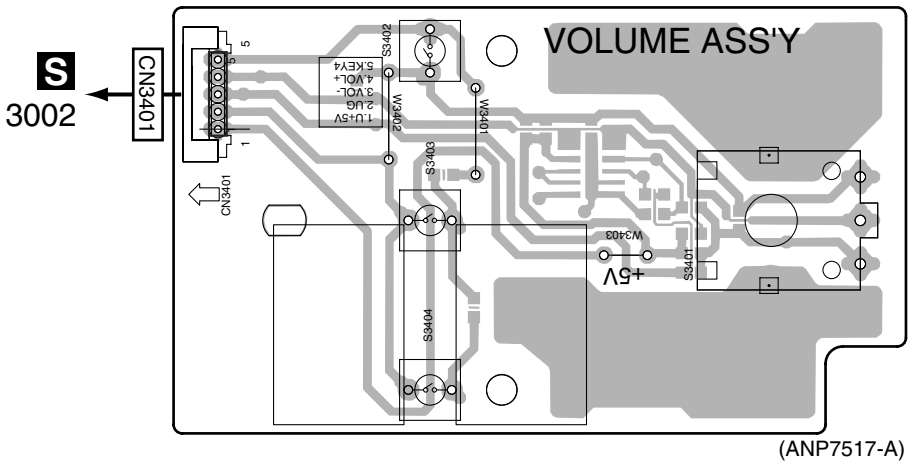
SIDE B


Q3004
CN3006
3008
3002
DISPLAY
ASS'Y
CMK-P3X
1,D+5V
2,MICSW
3,DG
4,OPT
CN3004
CN3005
(ANP7518-A)

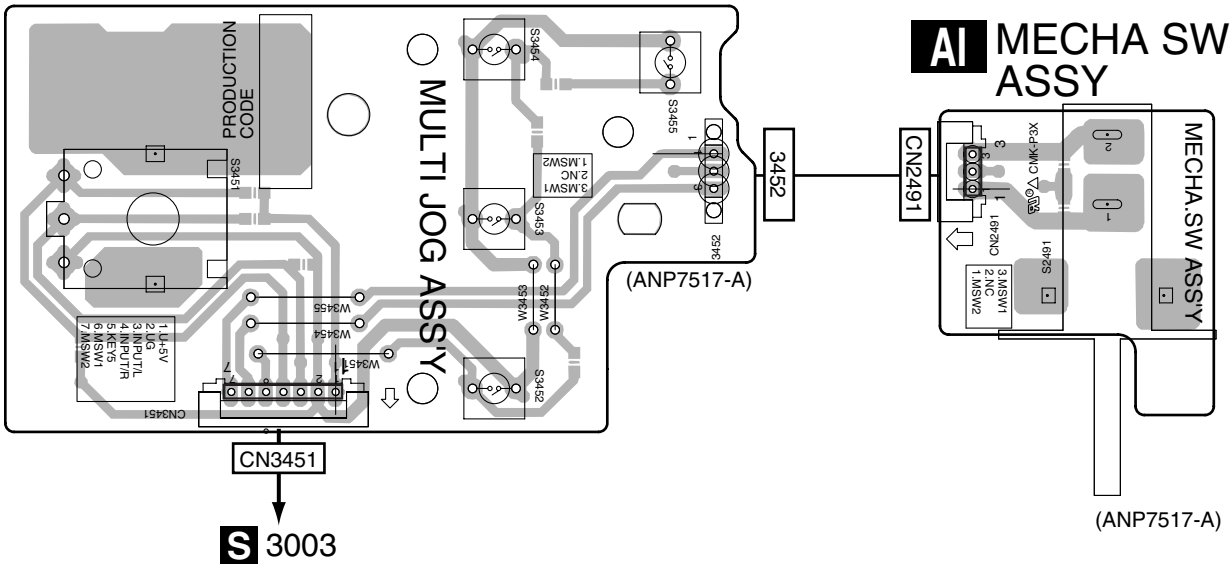
4.16 VOLUME, MULTI JOG, HEADPHONE and MECHA SW ASSYS

SIDE A **SIDE A**

T VOLUME ASSY

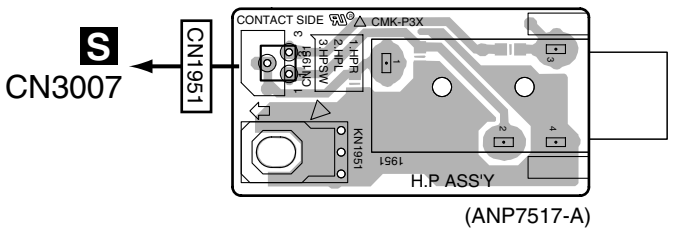


U MULTI JOG ASSY



AI MECHA SW ASSY

V HEADPHONE ASSY

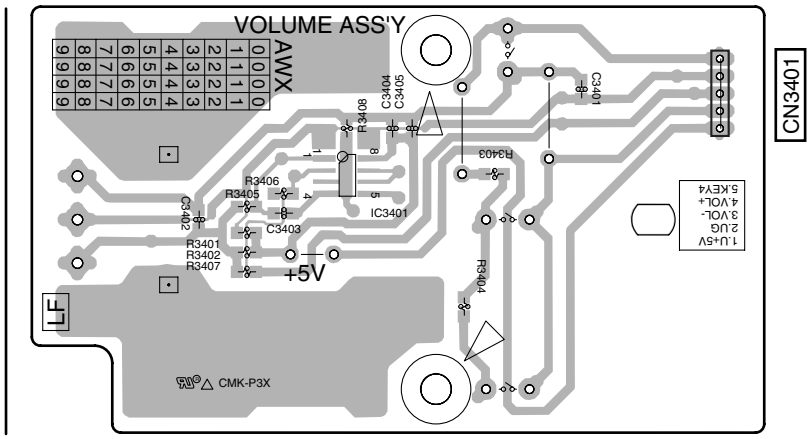


T U V AI T U V AI

SIDE B

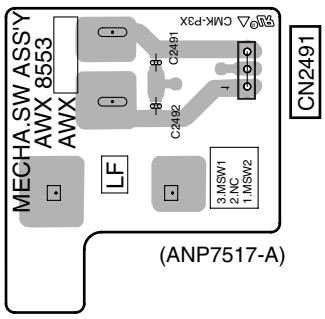
SIDE B

T VOLUME ASSY



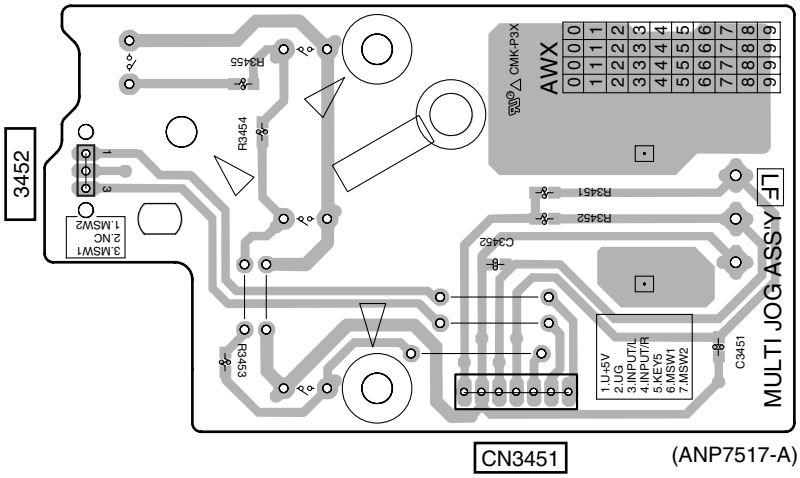
(ANP7517-A)

AI MECHA SW ASSY



(ANP7517-A)

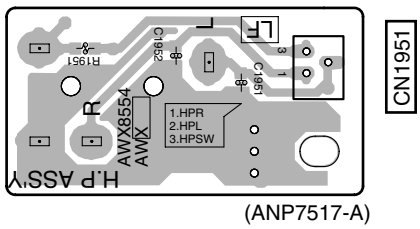
U MULTI JOG ASSY



CN3451

(ANP7517-A)

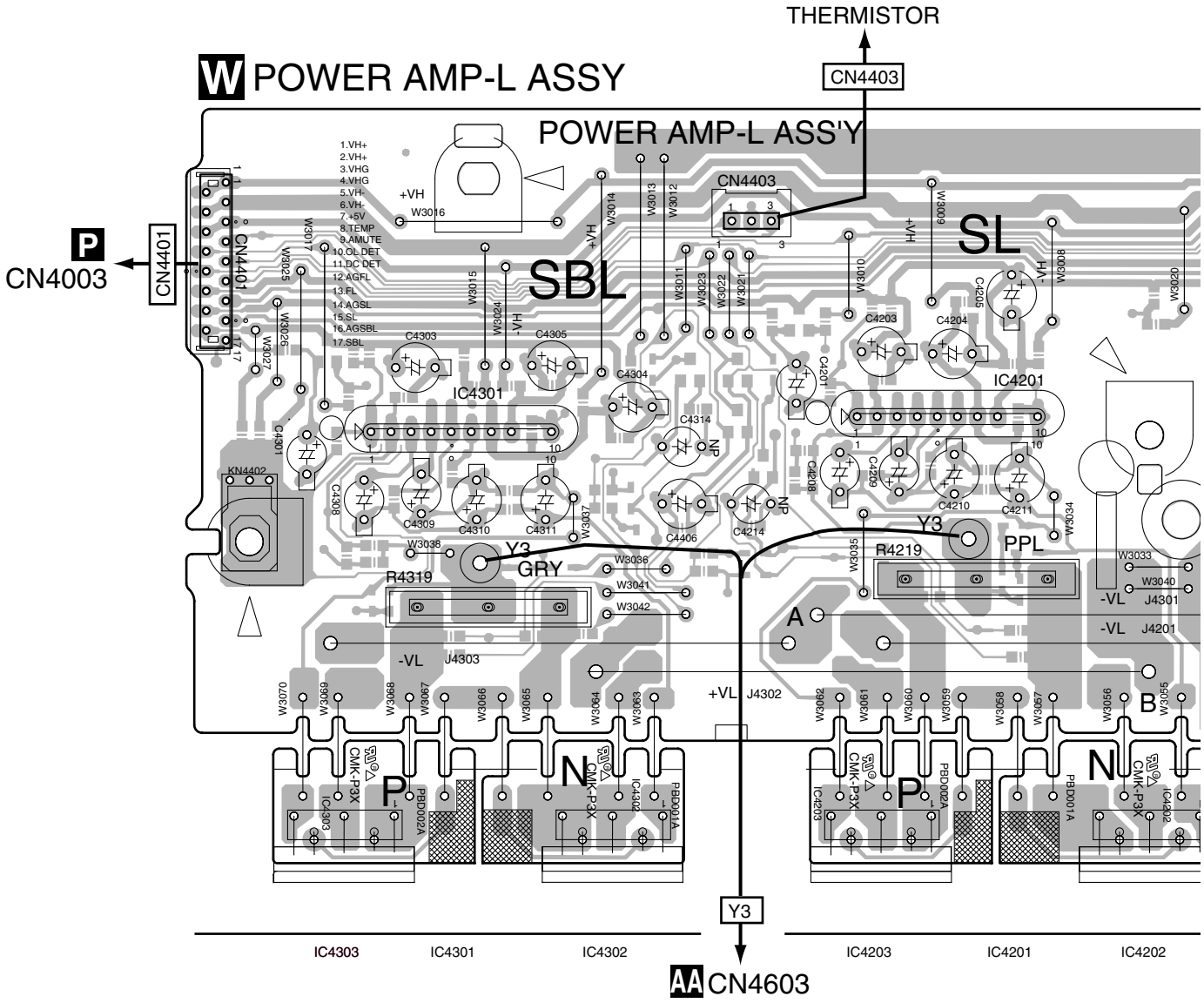
V HEADPHONE ASSY

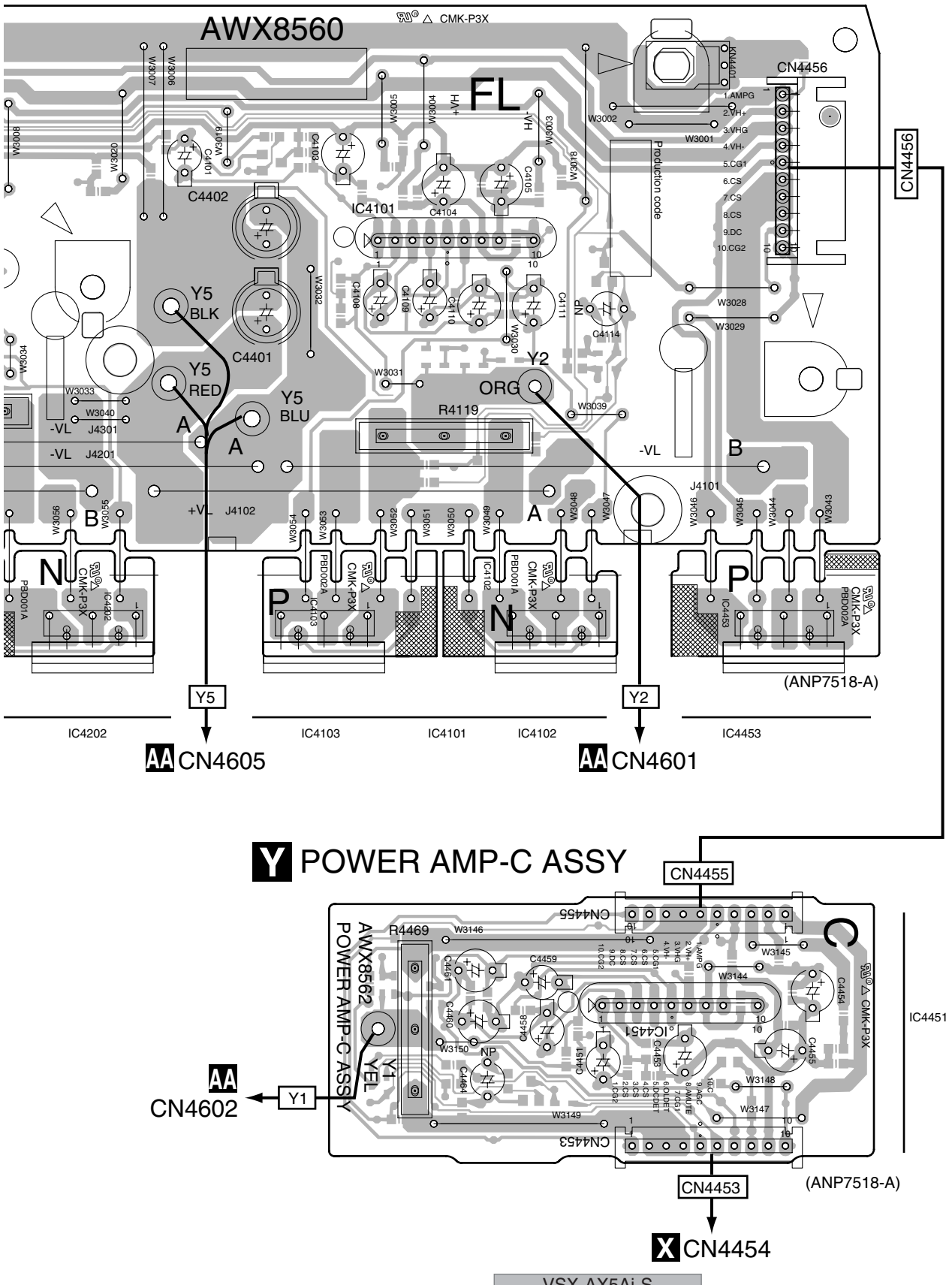


(ANP7517-A)

4.17 POWER AMP L and POWER AMP C ASSYS

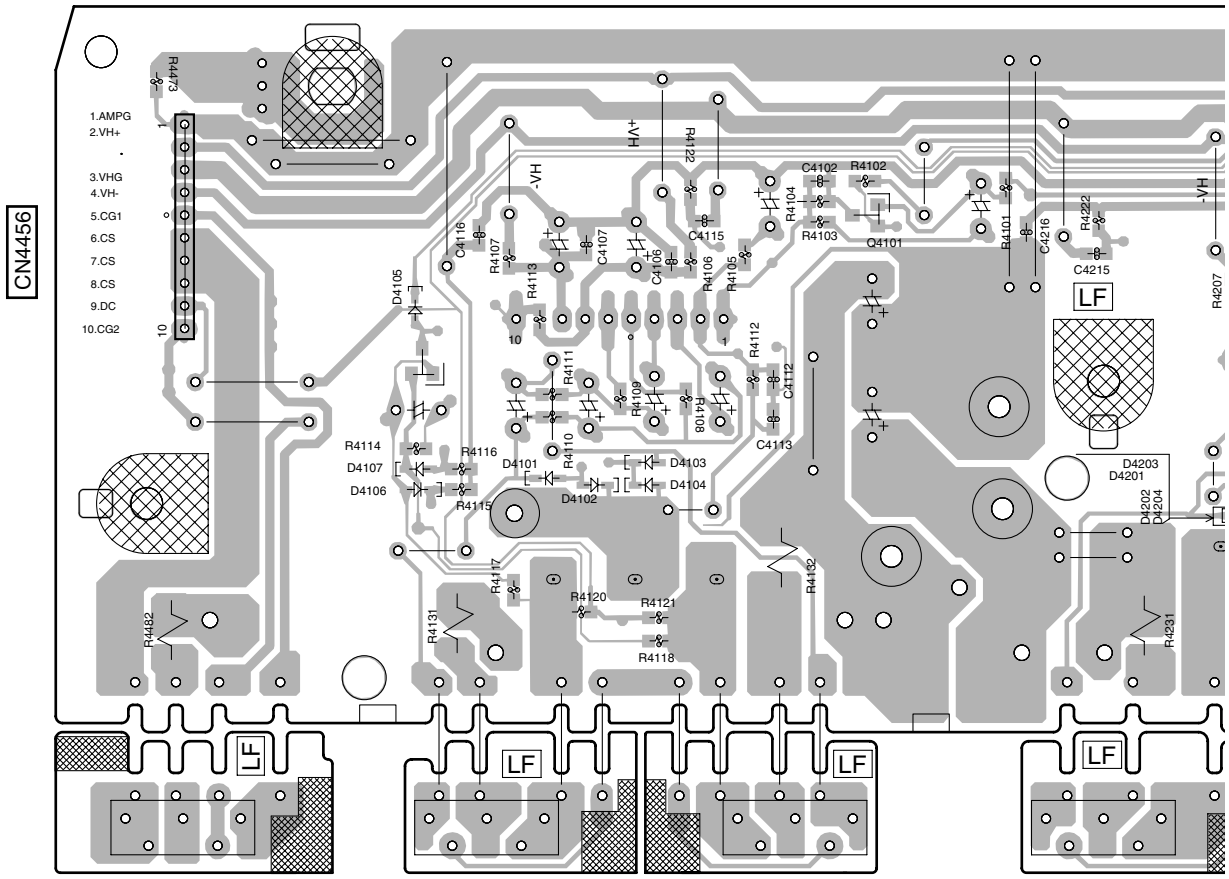
SIDE A



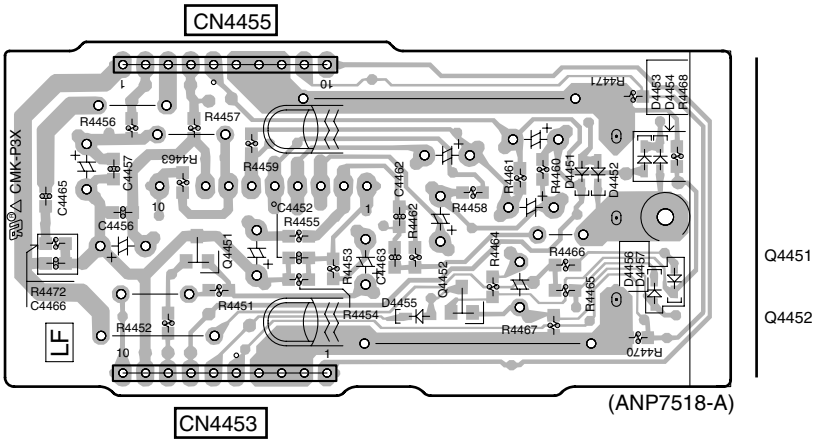

AWX8560
CMK-P3X
FL
CN4456
CN4456
Production code
IC4101
C4402
C4401
Y5 BLK
Y5 RED
Y5 BLU
Y2 ORG
R4119
-VL J4301
-VL J4201
+VL J4102
-VL
J4101
N
P
P
N
(ANP7518-A)
Y5
Y2
IC4202
IC4103
IC4101
IC4102
IC4453
AA CN4605
AA CN4601
Y POWER AMP-C ASSY
CN4455
AWX8562
POWER AMP-C ASSY
R4469
IC4451
AA CN4602
Y1
Y1 YEL
CN4453
(ANP7518-A)
X CN4454

SIDE B

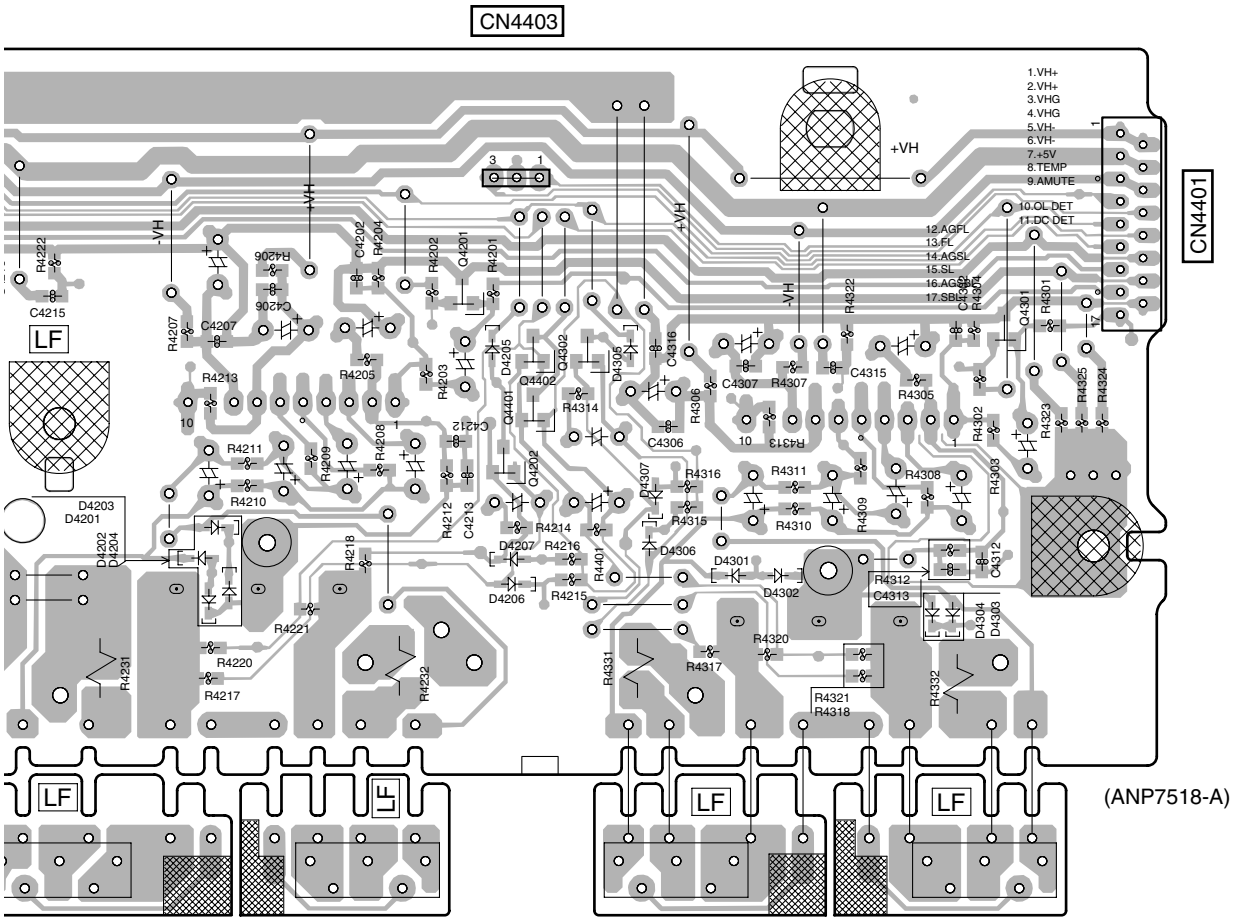
W POWER AMP-L ASSY



Y POWER AMP-C ASSY



SIDE B

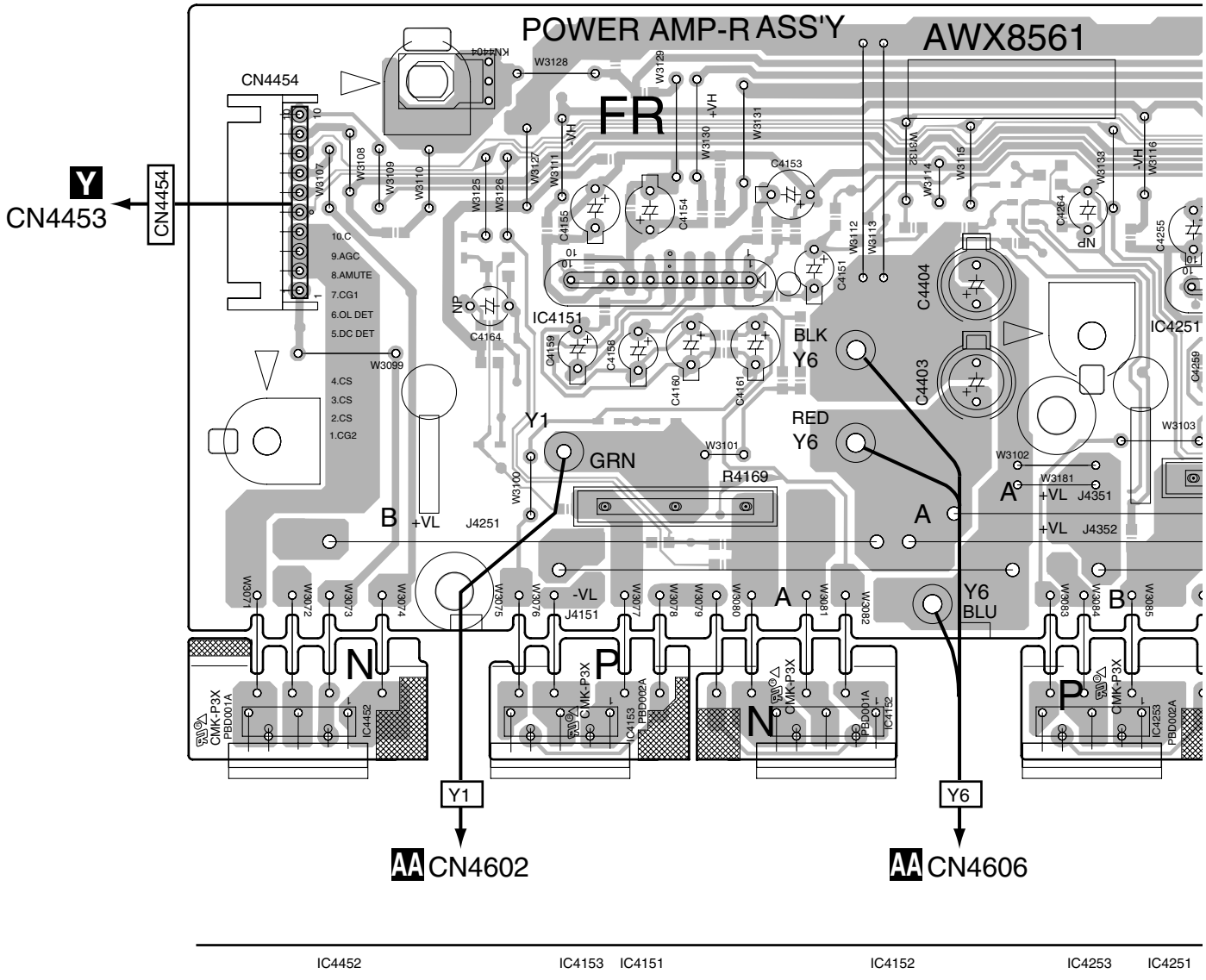


Q4201 Q4402 Q4302 Q4301
Q4401
Q4202

4.18 POWER AMP R ASSY

SIDE A

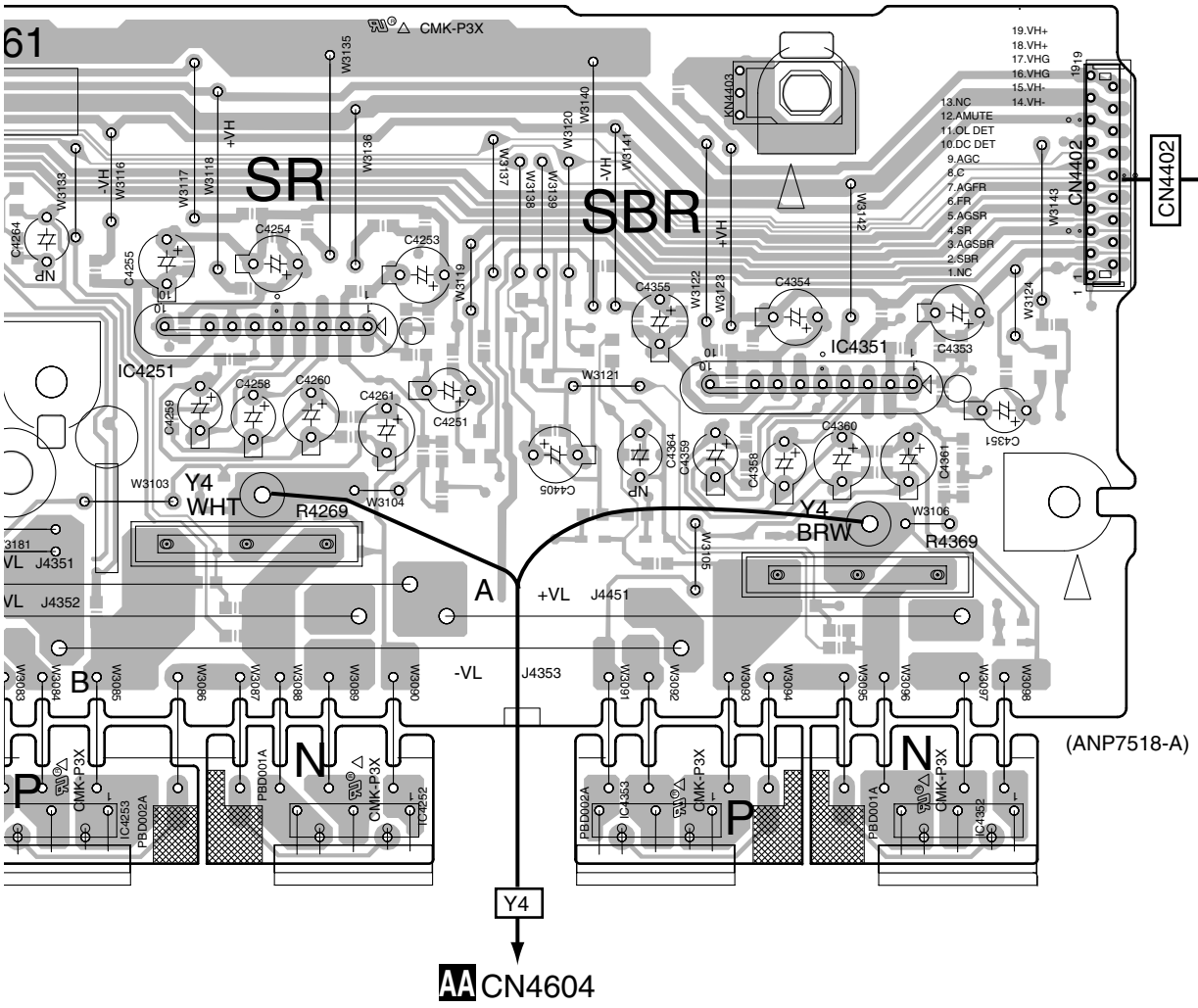
X POWER AMP-R ASSY



IC4452 IC4153 IC4151 IC4152 IC4253 IC4251

X

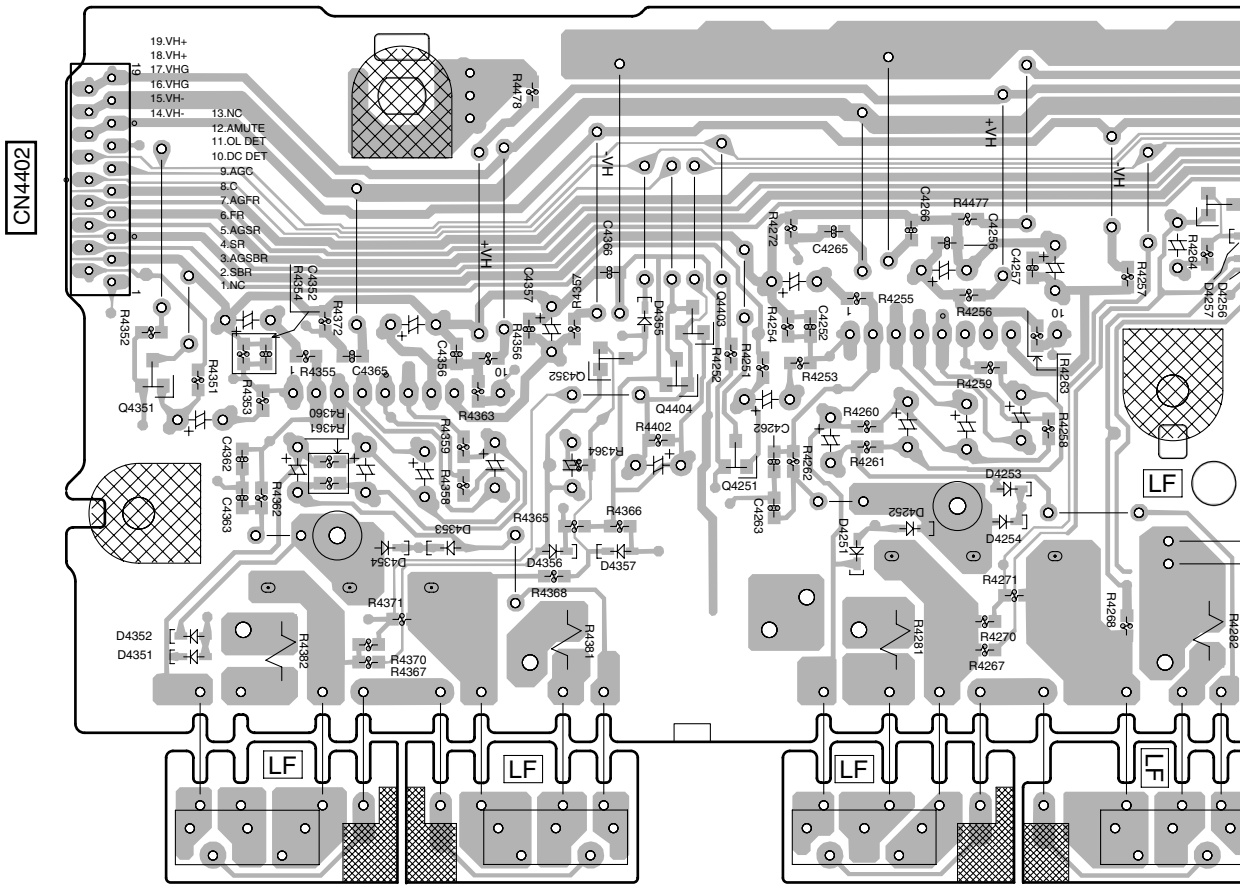
SIDE A



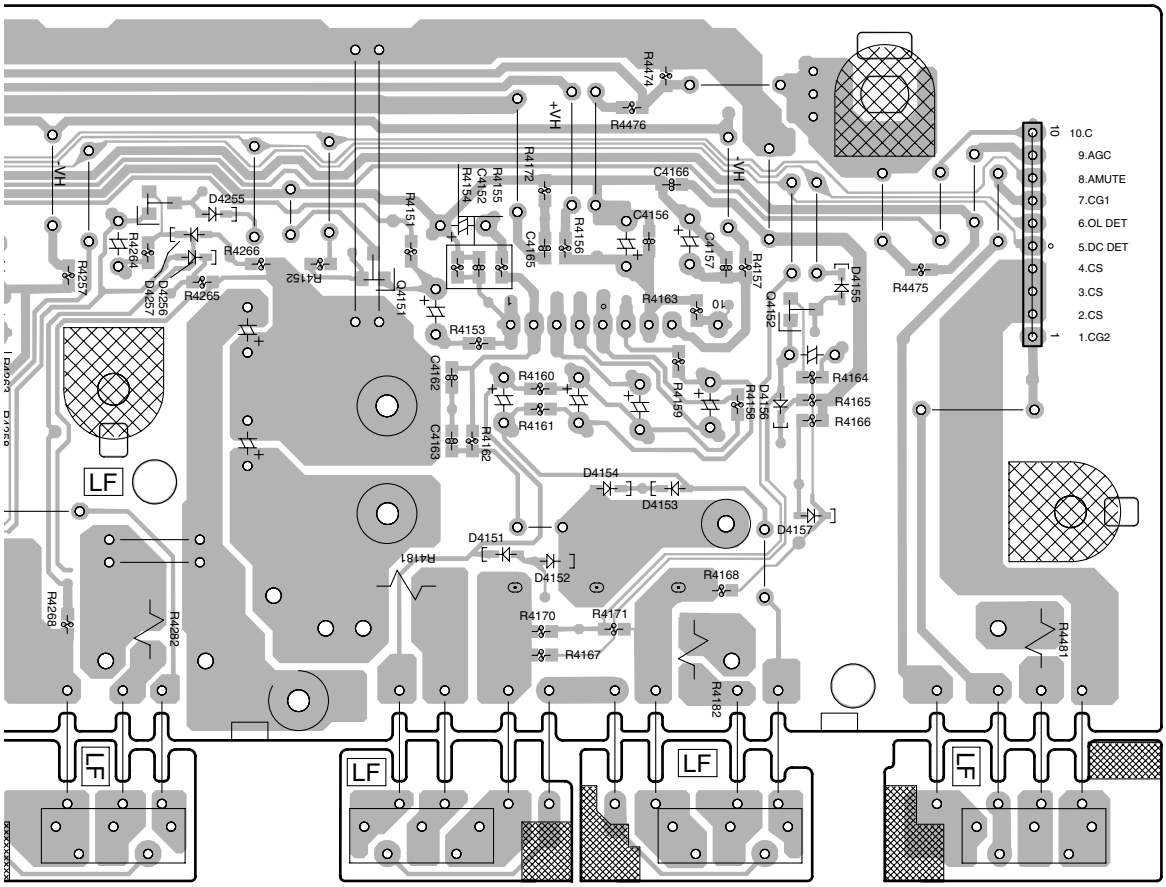
IC4253 IC4251 IC4252 IC4353 IC4351 IC4352

SIDE B

X POWER AMP-R ASSY



SIDE B

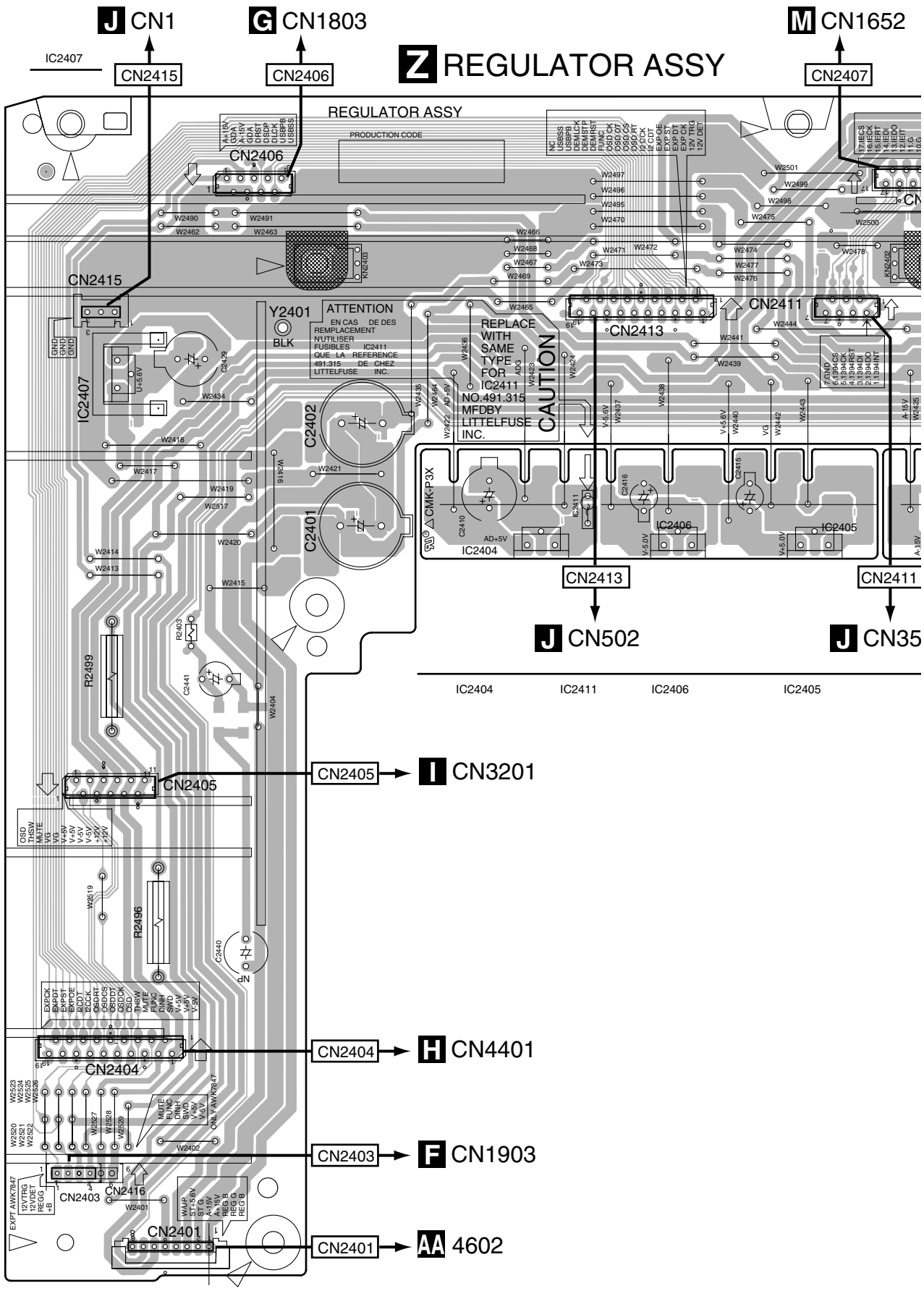


(ANP7518-A)

Q4252 Q4151 Q4152

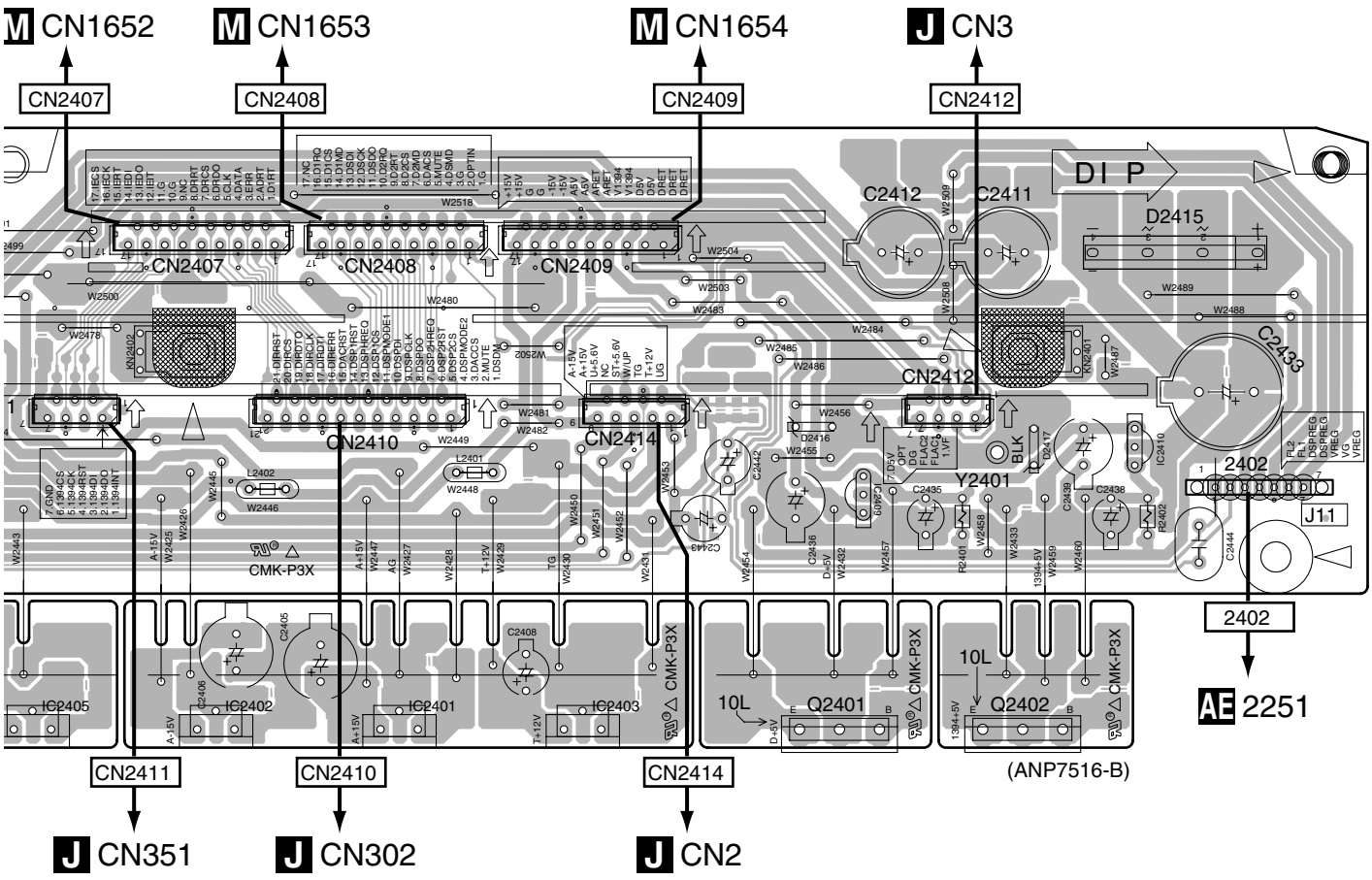
4.19 REGULATOR ASSY

SIDE A



Z

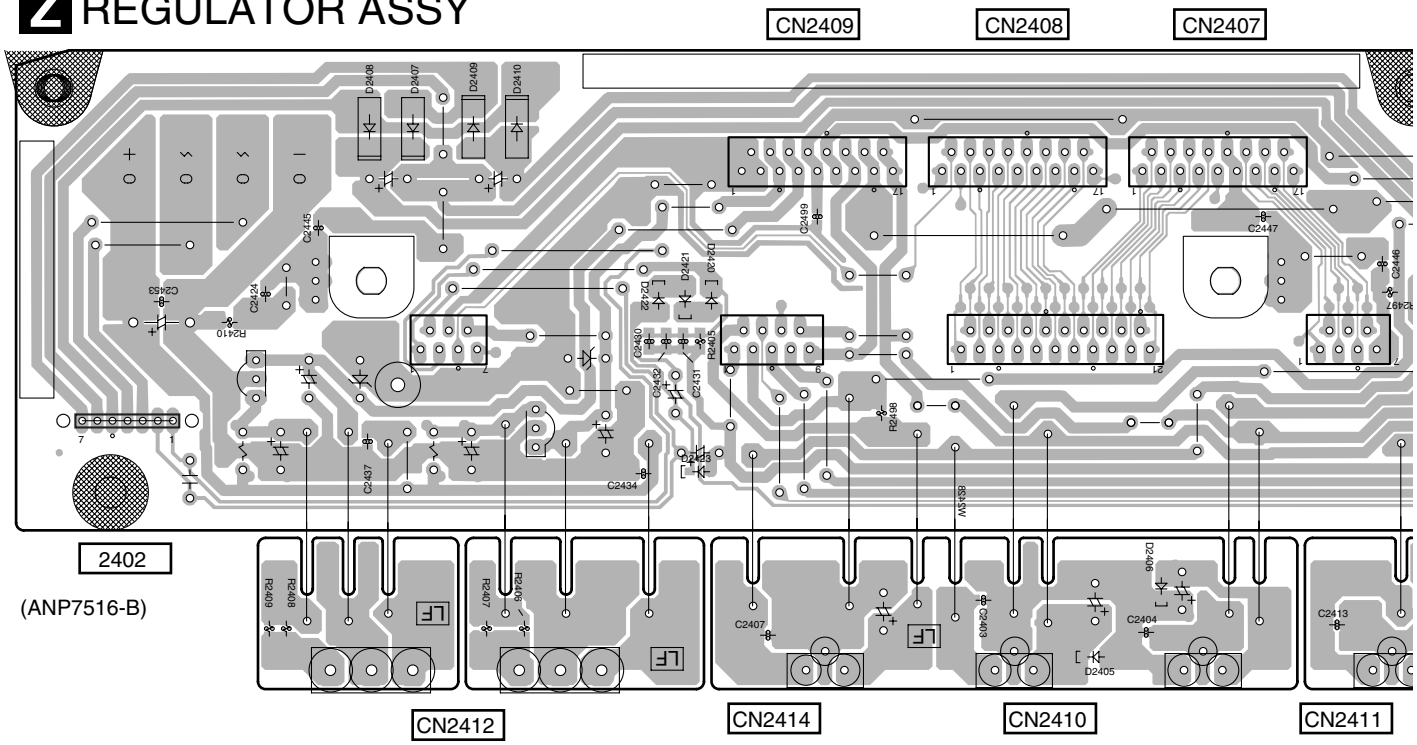
SIDE A



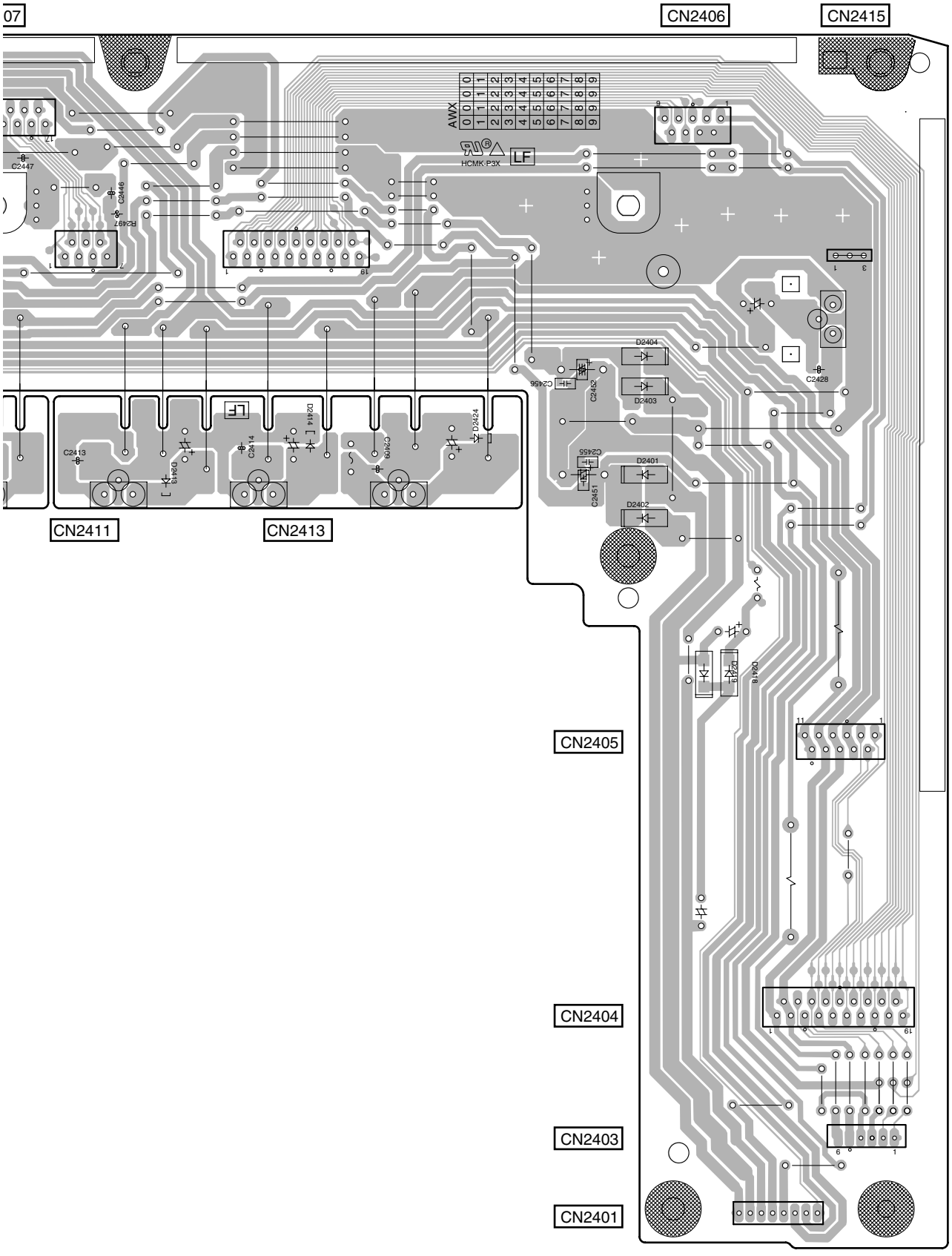
:2405 IC2402 IC2401 IC2403 Q2401 IC2409 Q2402 IC2410

SIDE B

Z REGULATOR ASSY



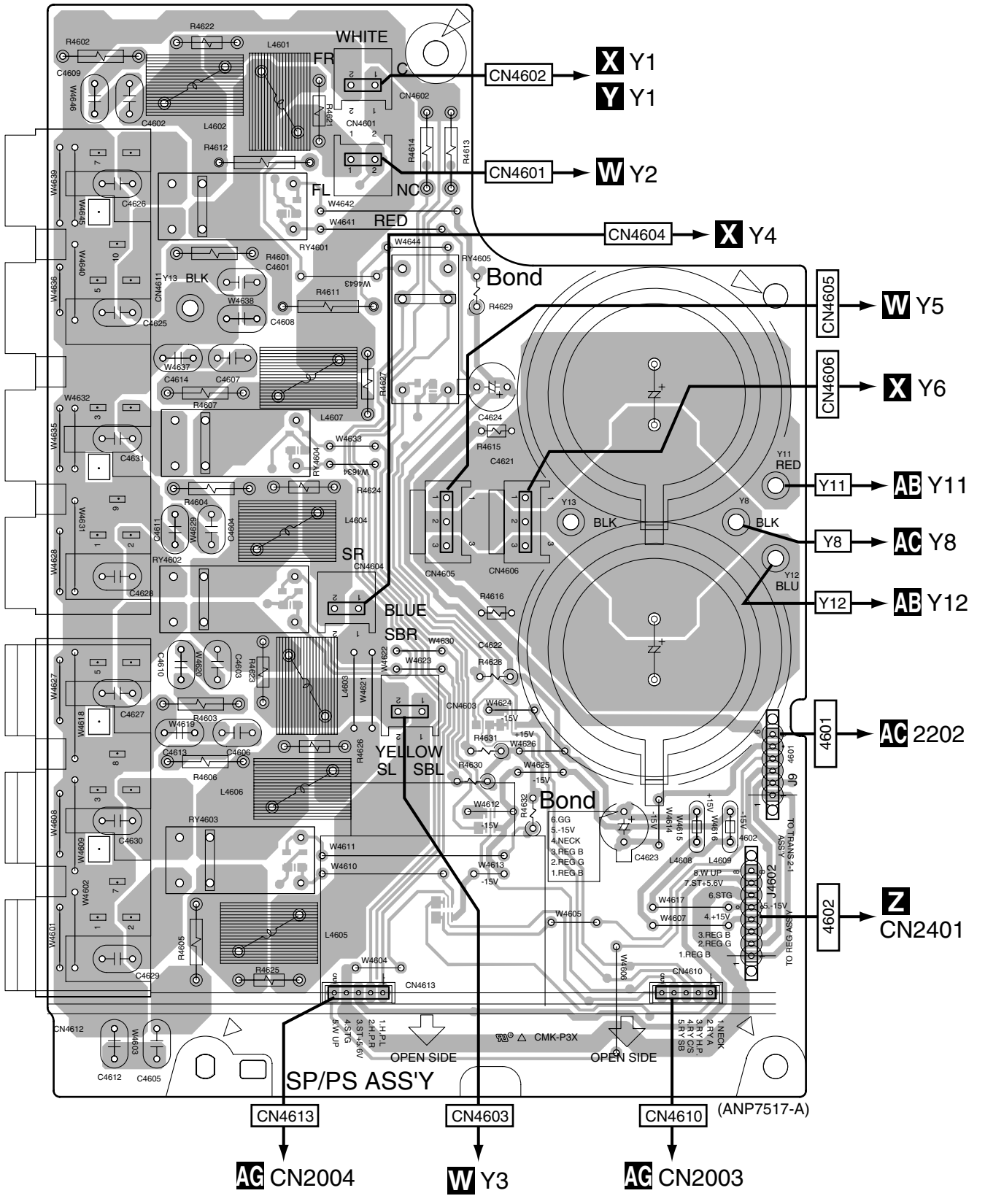
SIDE B


07
CN2406
CN2415
CN2411
CN2413
CN2405
CN2404
CN2403
CN2401
AWX
HCMK-P3X
LF
C2447
C2446
R2197
C2413
C2414
C2409
D2414
D2419
D2424
C2456
C2452
C2455
C2451
C2428
D2404
D2403
D2401
D2402
D2418
D2417

4.20 SP/PS ASSY

SIDE A **SIDE A**

AA SP/PS ASSY



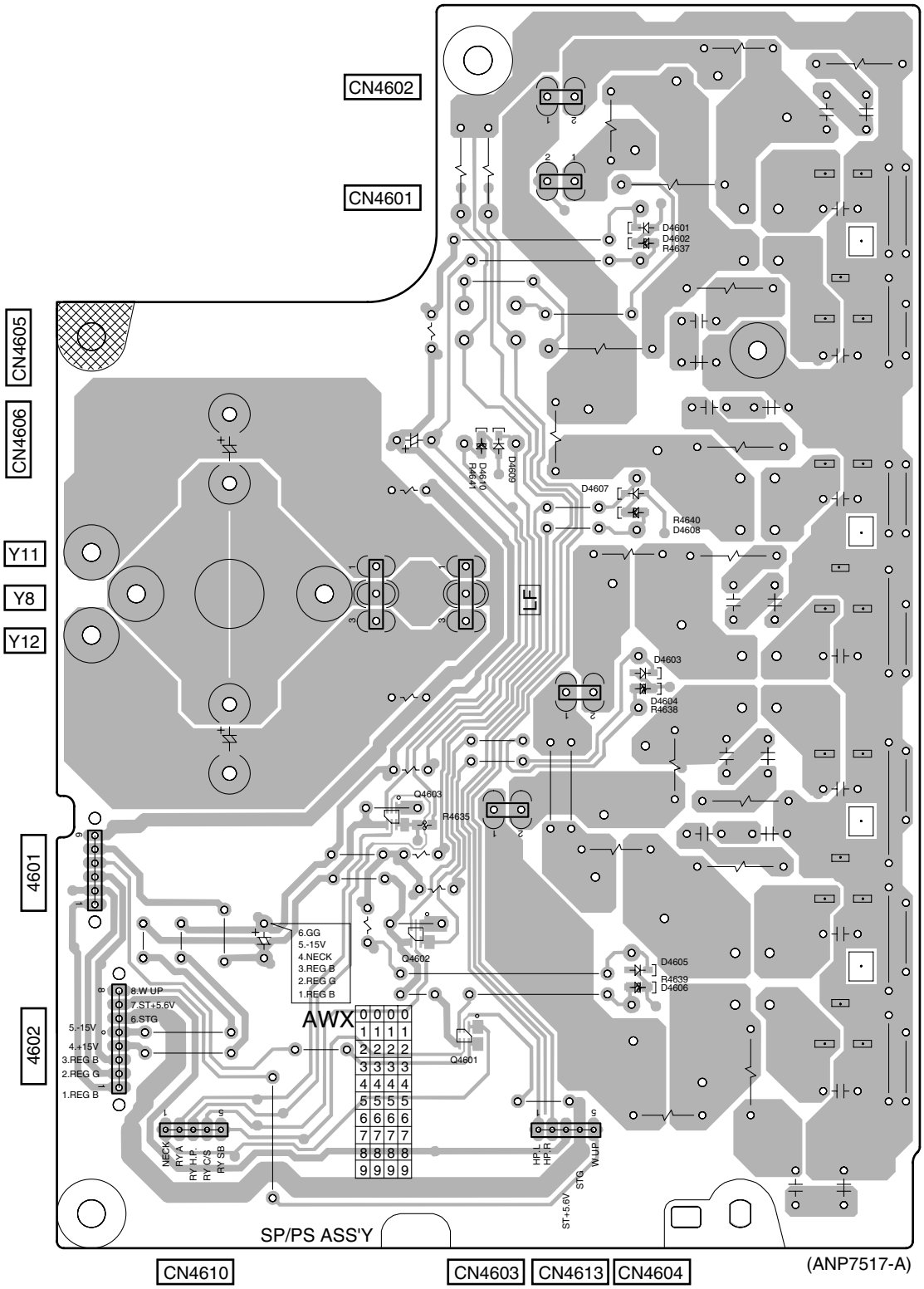
X Y1
Y Y1
W Y2
X Y4
W Y5
X Y6
Y11 **AB** Y11
Y8 **AC** Y8
Y12 **AB** Y12
AC 2202
Z CN2401
AG CN2004
W Y3
AG CN2003

AA **AA**

SIDE B

SIDE B

AA SP/PS ASSY

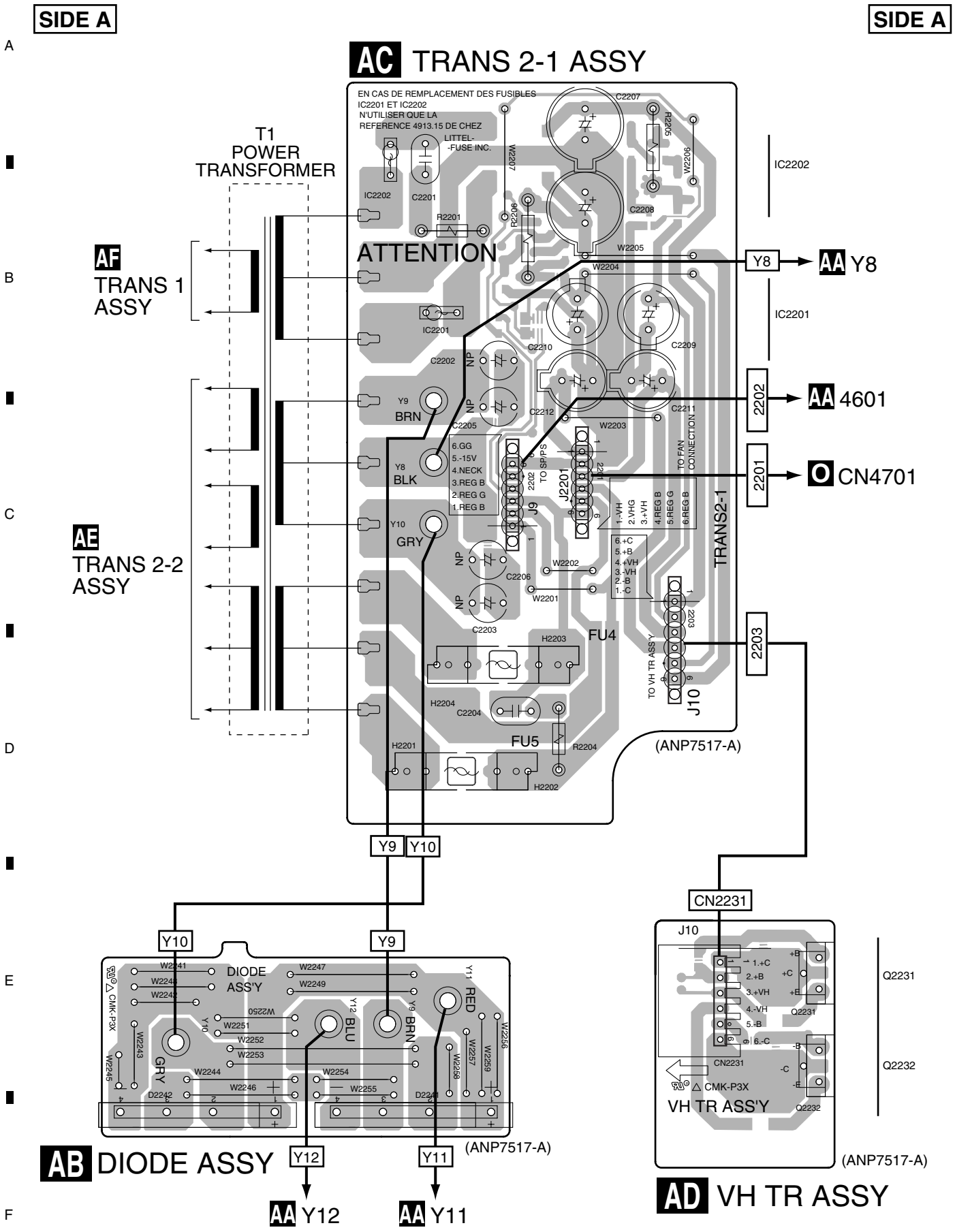


Q4603
Q4602
Q4601

AA

AA

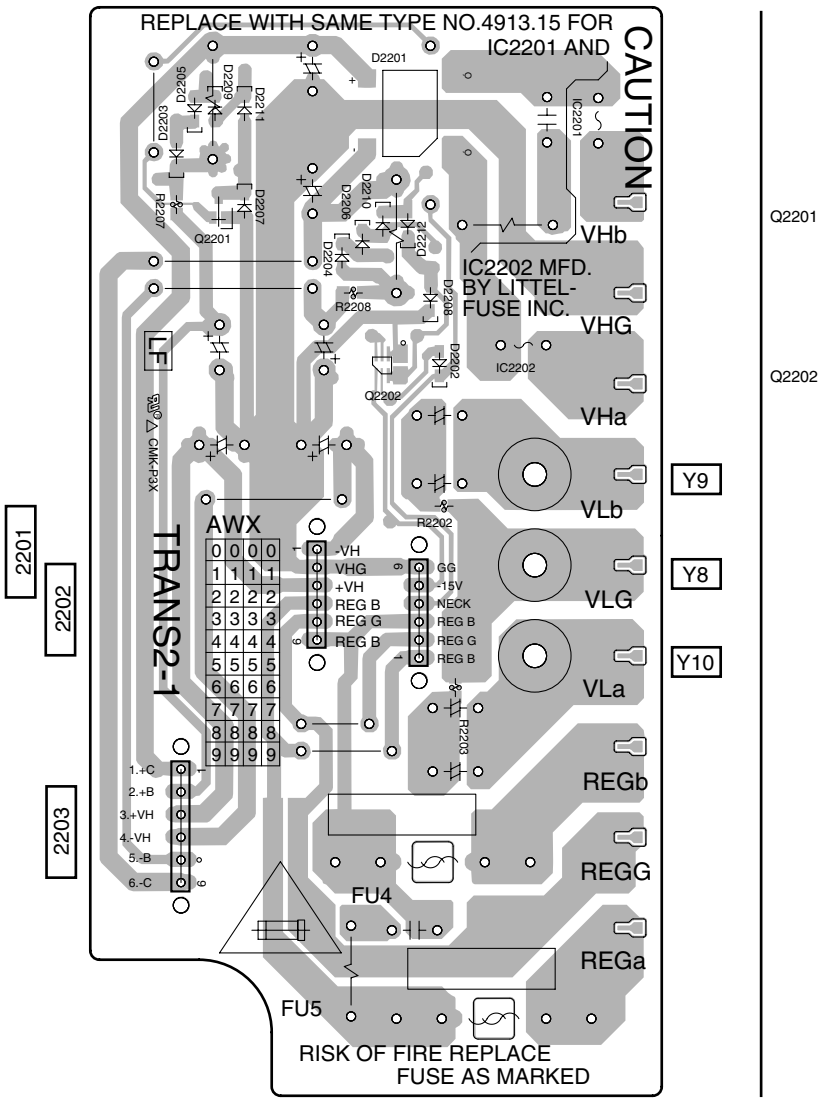
4.21 DIODE, TRANS 2-1 and VH TR ASSYS



SIDE B

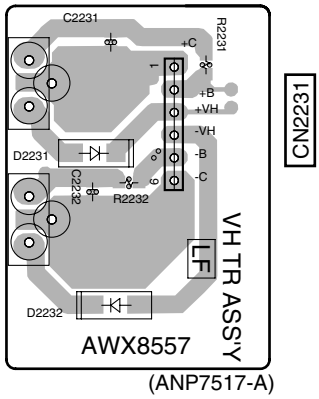
SIDE B

AC TRANS 2-1 ASSY

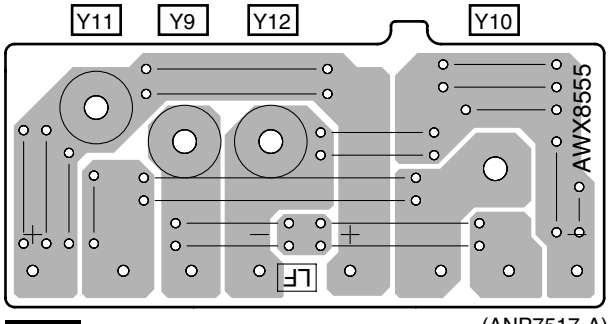


(ANP7517-A)

AD VH TR ASSY



(ANP7517-A)



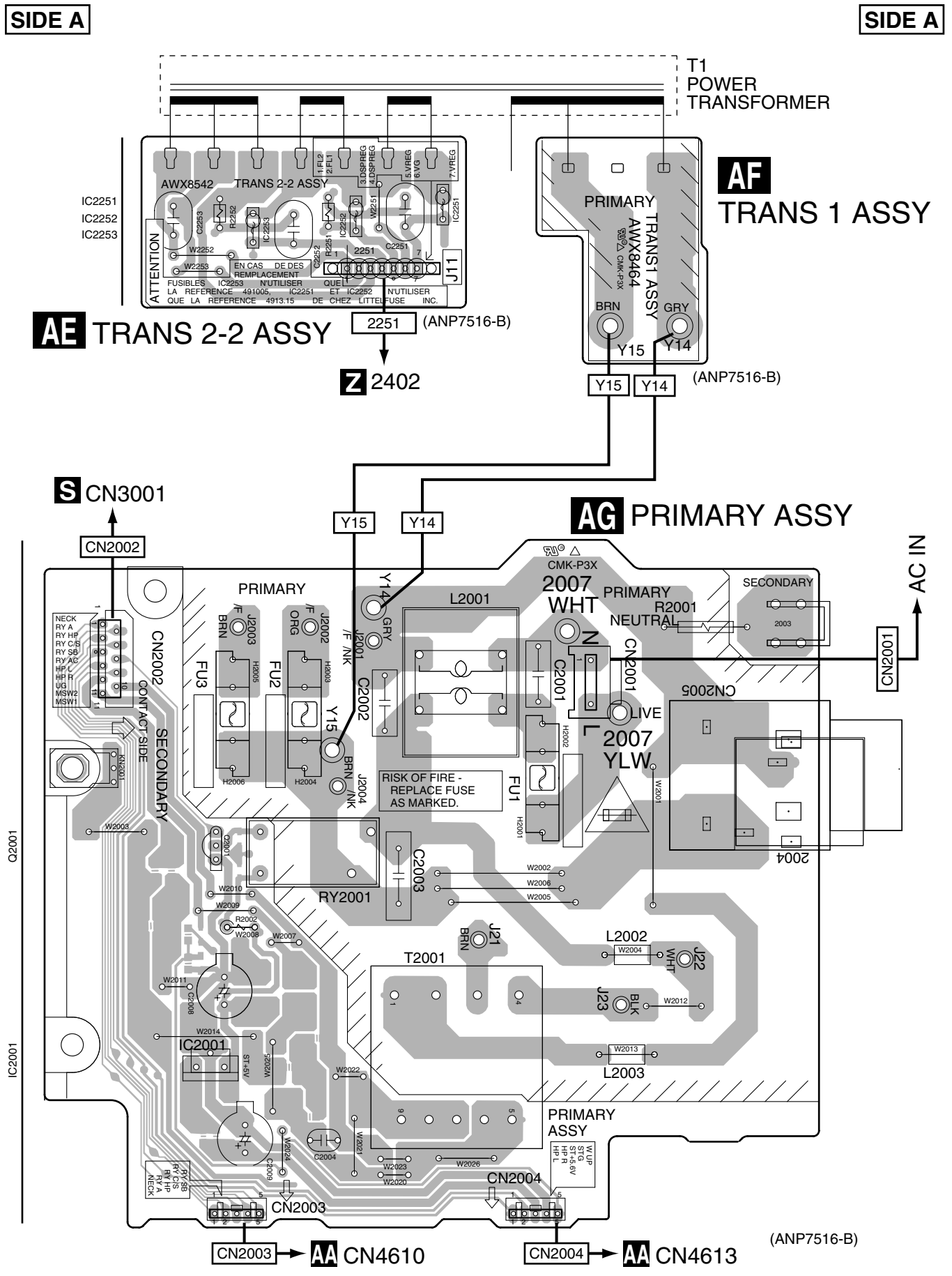
(ANP7517-A)

AB DIODE ASSY

AB AC AD

AB AC AD

4.22 TRANS 2-2, TRANS 1 and PRIMARY ASSYS



SIDE B

SIDE B

● Line Voltage Selection

Line Voltage can be changed by the following modification:

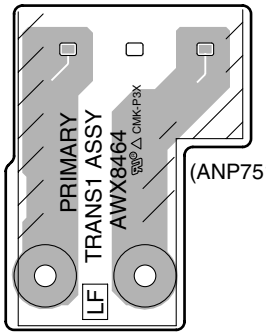
1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection wire from TRANS 1 ASSY to PRIMARY ASSY (Terminal No. Y15) as follows.

Voltage	Terminal No.
220-230V	Y15 of TRANS 1 ASSY
240V	240V terminal of power transformer

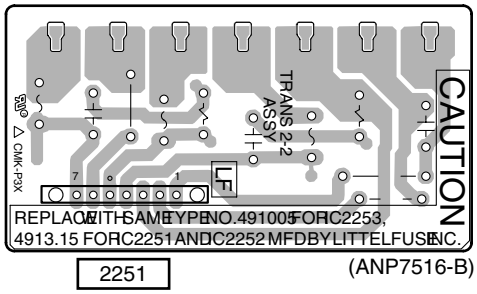
4. Stick a line voltage label on the rear panel.

Description	Part No.
220V label	AAX-193
240V label	AAX-192

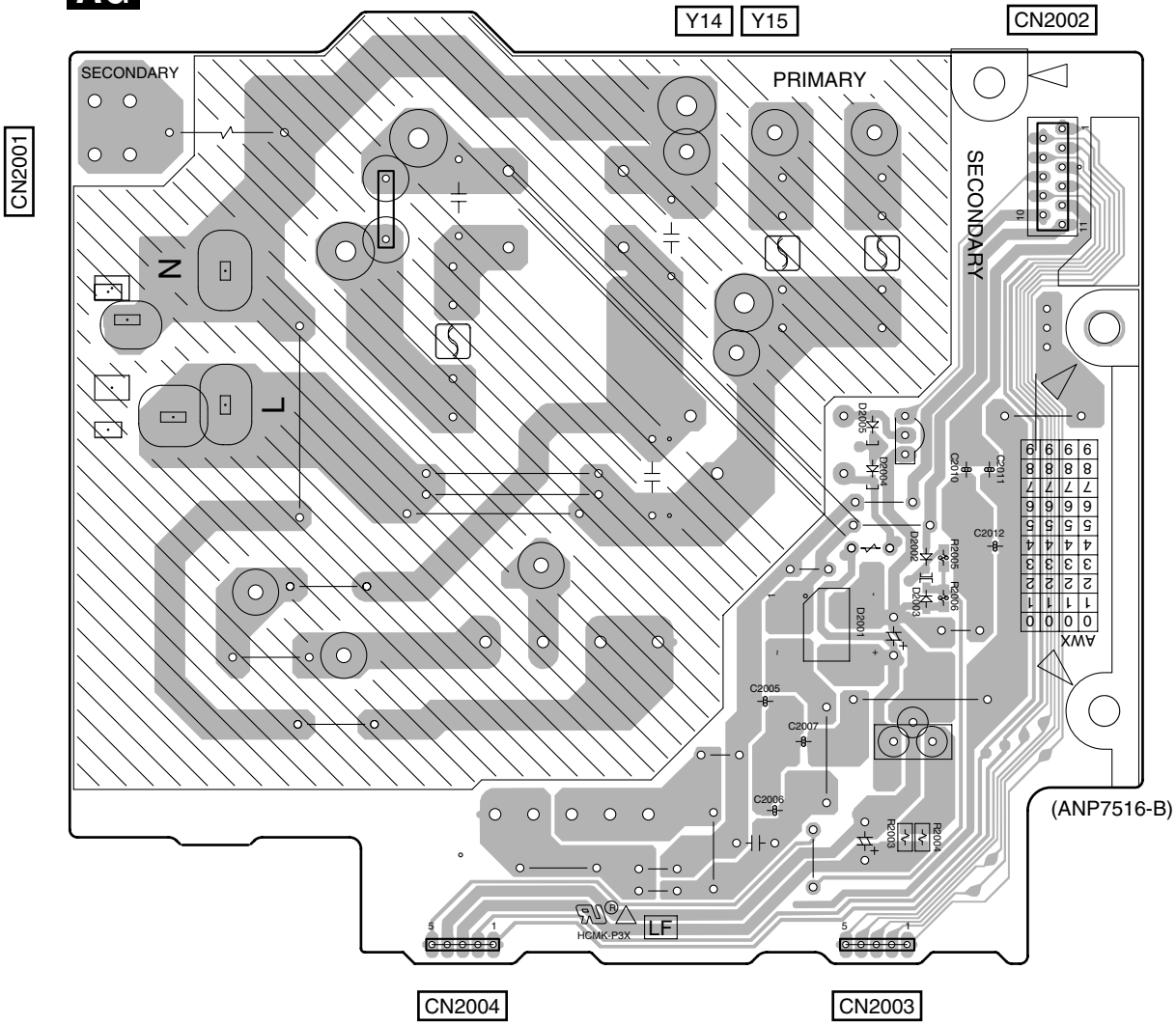
AF TRANS 1 ASSY



AE TRANS 2-2 ASSY



AG PRIMARY ASSY

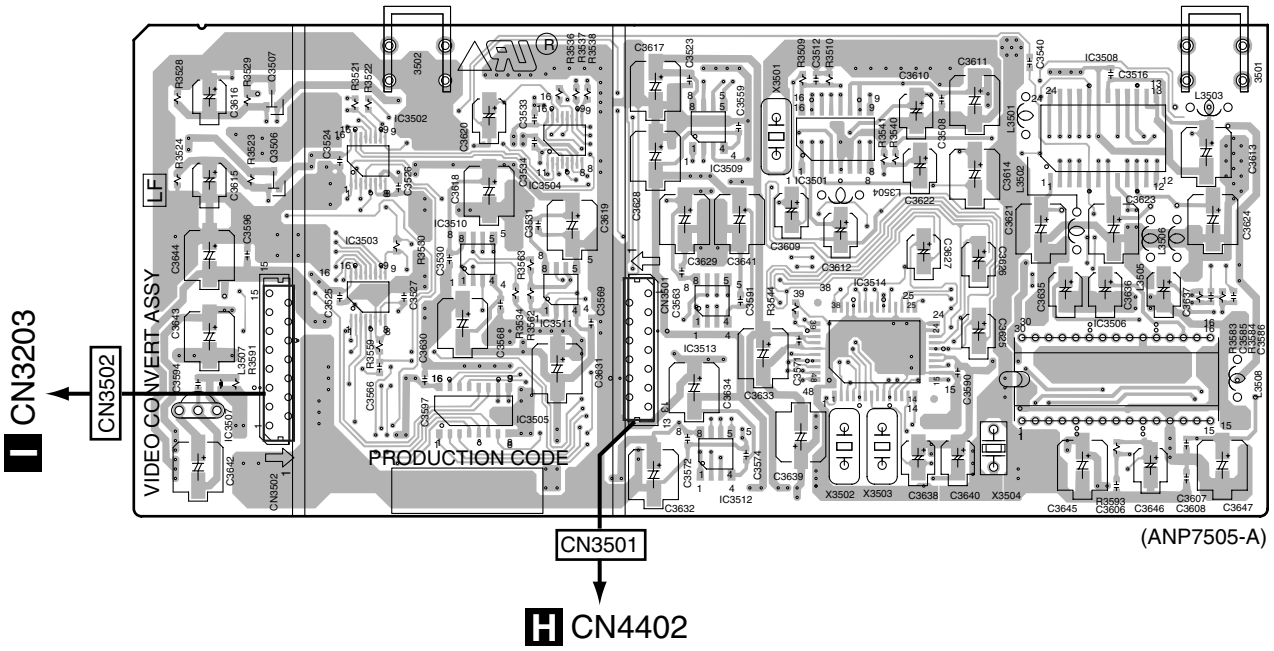


4.23 VIDEO CONVERT ASSY

SIDE A

SIDE A

AH VIDEO CONVERT ASSY



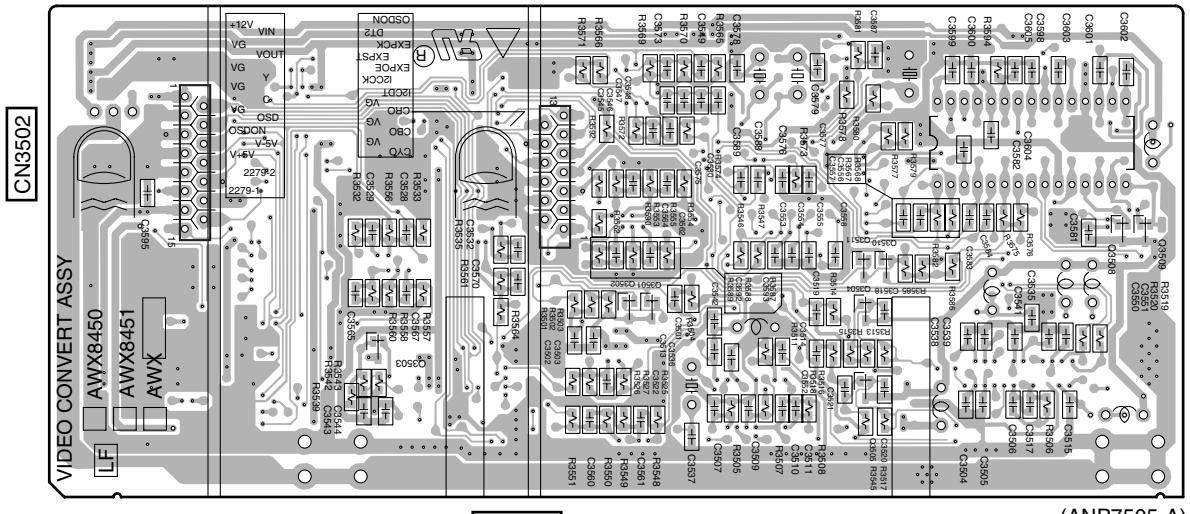
(ANP7505-A)

Q3507 Q3506	IC3503 IC3502	IC3510	IC3504 IC3505 IC3511	IC3513 IC3512	IC3514	IC3508

SIDE B

SIDE B

AH VIDEO CONVERT ASSY



(ANP7505-A)

IC933		Q3502	Q3501	Q3504 Q3505	Q3510 Q3511	Q3508 Q3509

AH **AH**

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10^1 → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 x 10^3 → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10^1 → 5621 ..... RN1/4PC 5 6 2 1 F

• LIST OF WHOLE PCB ASSEMBLIES

Mark	No.	Description	Part No.
	1	..FM/AM TUNER MODULE	AXX7170
NSP	1	..REGULATOR ASSY	AWK7846
	2	..MIC & F.OPT IN ASSY	AWX8545
	2	..REGULATOR ASSY	AWX8541
	2	..PRIMARY ASSY	AWX8461
	2	..TRANS2-2 ASSY	AWX8542
	2	..7.1CH I/O ASSY	AWX8543
NSP	2	..POWER AMP IN ASSY	AWX8544
	2	..FAN DRIVE ASSY	AWX8488
NSP	1	..COMPLEX ASSY	AWK7851
NSP	2	..VOLUME ASSY	AWX8550
NSP	2	..MULTI JOG ASSY	AWX8552
	2	..INPUT CONNECT ASSY	AWX8546
NSP	2	..FRONT IN ASSY	AWX8549
	2	..OPTICAL IN ASSY	AWX8556
NSP	2	..HEADPHONE ASSY	AWX8554
	2	..DIODE ASSY	AWX8555
	2	..VH TR ASSY	AWX8557
	2	..V-AUDIO IN ASSY	AWX8558
	2	..SP/PS ASSY	AWX8470
	2	..12V TRIGGER ASSY	AWX8548
	2	..TRANS 2-1 ASSY	AWX8551
	2	..MECHA SW ASSY	AWX8553
NSP	1	..MAIN ASSY	AWK7836
	2	..MAIN CONTROLASSY	AWX8435
	2	..DSP CONNECTION ASSY	AWX8441
	2	..COAXIAL IN ASSY	AWX8443
	2	..MIC AMP ASSY	AWX8447
	2	..FAN CONNECTION ASSY	AWX8448
NSP	1	..VIDEO CONVERT ASSY	AWK7842
	2	..VIDEO CONVERT ASSY	AWX8451
	2	..VIDEO ASSY	AWX8452
	2	..COMPONENT ASSY	AWX8454
NSP	1	..POWER AMP ASSY	AWK7863
	2	..POWER AMP-L ASSY	AWX8560
	2	..POWER AMP-R ASSY	AWX8561
	2	..POWER AMP-C ASSY	AWX8562
	2	..DISPLAY ASSY	AWX8559
	1	..DSP ASSY	AWX8489
	1	..1394 ASSY	AWK7834

Mark	No.	Description	Part No.

REGULATOR ASSY

OTHERS

	Y15	ADX7465
	Y14	ADX7466
	J11	D20PYY0745E

COMPLEX ASSY

OTHERS

	Y8 BOARD IN JUMPER	ADX7284
	Y9 BOARD IN JUMPER	ADX7285
	Y10 BOARD IN JUMPER	ADX7286
	Y11 BOARD IN JUMPER	ADX7287
	Y12 BOARD IN JUMPER	ADX7288
	J9 JUMPER WIRE 6P	D20PYY0615E

A 7.1CH I/O ASSY

SEMICONDUCTORS

	IC1301-IC1304	UPC4570G2-A
	Q1351, Q1352, Q1361, Q1362	HN1C03F
	Q1371, Q1372, Q1381, Q1382	HN1C03F

CAPACITORS

	C1301-C1304, C1307, C1308	CCSRCH101J50
	C1311-C1314, C1317, C1318	CCSRCH101J50
	C1321-C1324, C1327, C1328	CCSRCH101J50
	C1331-C1334, C1337, C1338	CCSRCH101J50
	C1351, C1352, C1361, C1362	CCSRCH331J50
	C1371, C1372, C1381, C1382	CCSRCH331J50
	C1309, C1310, C1319, C1320	CEAT100M50
	C1329, C1330, C1339, C1340	CEAT100M50
	C1305, C1306, C1315, C1316	CEAT4R7M50
	C1325, C1326, C1335, C1336	CEAT4R7M50
	C1341-C1348, C1391-C1394	CKSRYB103K50

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	1301-1304 4P PIN JACK	AKB7075
	CN1306 5P SOCKET	XKP3073
	CN1307, CN1308 9P SOCKET	XKP3075

Mark No.	Description	Part No.

B V-AUDIO IN ASSY

SEMICONDUCTORS

	Q1201, Q1202	2SC2878

CAPACITORS

	C1201-C1212	CCSRCH221J50
	C1213-C1215	CKSRYB103K50

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	1201, 1203 4P PIN JACK	AKB7075
	CN1205 6P PIN JACK	AKB7162
	CN1204 17P SOCKET	XKP3079

C FRONT IN ASSY

CAPACITORS

	C1501, C1502	CCSRCH221J50
	C1505	CKSRYB102K50
	C1504, C1506	CKSRYB103K50
	C1503	CKSRYB472K50
	C1510	CKSRYB473K50

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	CN1501 7P FFC CONNECTOR	52044-0745
	JA1501 FRONT INPUT	AKX7016
	KN1501 EARTH METAL FITTING	VNF1084

D OPTICAL IN ASSY

COILS AND FILTERS

	F1701	DTF1064

CAPACITORS

	C1706	CEAT470M16
	C1701-C1705	CKSRYF104Z16

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	CN1701 9P FFC CONNECTOR	52045-0945
	JA1701, JA1702 OPTICAL LINK IN	GP1FA502RZ
	JA1703, JA1704 OPTICAL LINK OUT	GP1FA502TZ

E INPUT CONNECT ASSY

SEMICONDUCTORS

	IC1401	M62429FP
	IC1451	UPC4570G2-A
	D1401	UDZS5R1(B)

CAPACITORS

	C1406, C1407	CCSQCH101J50
	C1401-C1405, C1451, C1452	CEAT100M50
	C1454, C1455	CKSRYB103K50
	C1453	CKSRYB472K50

Mark No.	Description	Part No.

RESISTORS

	R1405	RS3LMF391J
	Other Resistors	RS1/16S###J

OTHERS

	CN1407 5P PLUG	XKP3062
	CN1406, CN1408 9P PLUG	XKP3064
	CN1405 17P PLUG	XKP3068
	CN1402 9P PLUG	XKP3074
	CN1404 9P SOCKET	XKP3075
	CN1403 13P SOCKET	XKP3077
	CN1401 15P SOCKET	XKP3078

F 12V TRIGGER ASSY

SEMICONDUCTORS

⚠	IC1931	BA12T
	IC1901	SP232AEN
	Q1933	2SA1037K
	Q1931	2SB1237X
	Q1901	2SC1740S
	Q1932	DTC124EK
	D1901, D1902	1SS355
	D1931	UDZS5R1(B)

COILS AND FILTERS

	L1901	LAU1R0J

CAPACITORS

	C1901	CEAT101M16
	C1903-C1906	CEAT1R0M50
	C1938	CEATR10M50
	C1932, C1933	CEHAT100M50
	C1902, C1907, C1911, C1921, C1931	CKSRYB103K50
	C1934-C1936	CKSRYB103K50
	C1909	CKSRYB331K50

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	CN1901 D-SUB SOCKET	AKP1213
	CN1902 KR CONNECTOR	B8B-PH-K
	CN1903 4P SOCKET	KP200TA4L
	JA1922 REMOTE CONTROL JACK	RKN1004
	1901 SCREW TERMAINL	VNE1948

G COAXIAL IN ASSY

SEMICONDUCTORS

	IC1681	PCM2902EG
	IC1881	TC74HCU04AF
	IC1682	TC7SET08F

COILS AND FILTERS

	F1881	DTF1064

CAPACITORS

	C1688	CCSRCH180J50
	C1687	CCSRCH220J50
	C1885, C1886	CCSRCH470J50
	C1887, C1896	CCSRCH471J50
	C1681	CEAT470M16
	C1890	CEAT470M25

Mark	No.	Description	Part No.
	C1680, C1697, C1857, C1858		CKSRYB103K50
	C1883, C1884, C1888, C1897		CKSRYB103K50
	C1683-C1686, C1689, C1690, C1698		CKSRYB104K16
	C1889		CKSRYB105K6R3
	RESISTORS		
	Other Resistors		RS1/16S###J
	OTHERS		
	X1681 (12.0MHz)		ASS7047
	CN1801	19P FFC CONNECTOR	52045-0945
	JA1802	2P PIN JACK	AKB7148
	JA1681	USB CONNECTOR	DKN1237
	CN1802	20P FFC CCONECTOR	VKN1196
	CN1803	9P SOCKET	XKP3075

H COMPONENT ASSY

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	IC4403		BU4094BCF
	IC4405, IC4406		OPA2652U
	IC4404		PDC084B
	IC4401, IC4402		TC74LVX4053FT
⚠	Q4406		2SA1576A
	Q4407-Q4412		2SA1576A
⚠	Q4405		2SC4081
	Q4415		2SC4081
	Q4404		DTC124EUA
	COILS AND FILTERS		
	L4401, L4403		LAU100J
	L4402		LAU330J
	CAPACITORS		
	C4442 (1000u/10V)		ACH7194
	C4420		CCSRCH101J50
	C4411		CCSRCH150J50
	C4414		CCSRCH180J50
	C4416, C4417		CCSRCH240J50
	C4424, C4432, C4438		CCSRCH470J50
	C4458		CEANP100M16
	C4444-C4447, C4449, C4451-C4453		CEAT100M50
	C4439-C4441, C4443, C4448, C4450		CEAT101M16
	C4454, C4455		CEAT101M16
	C4405, C4406, C4412, C4415		CKSRYB103K50
	C4428-C4431, C4433-C4437		CKSRYB103K50
	C4418, C4419, C4421, C4423		CKSRYB473K50
	RESISTORS		
	Other Resistors		RS1/16S###J
	OTHERS		
	X4401 (14.32MHz)		ASS1056
	CN4403	12P FFC CONNECTOR	52045-1245
	JA4401-JA4403	3P PIN JACK	VKB1151
	CN4402	13P SOCKET	XKP3077
	CN4401	19P SOCKET	XKP3080

I VIDEO ASSY

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	IC3205		LA7213
	IC3203		NJM2279M
	IC3206, IC3207		NJM2595M
	IC3204		NJM2596M
	IC3201, IC3202		TC74HC4053AFT
	IC3208, IC3209		TK15420M
	Q3201-Q3203		2SC4081
	Q3204-Q3207		DTC124EUA
	D3203		1SS355
	D3201, D3202		DAN202K
	CAPACITORS		
	C3254, C3268, C3269 (1000u/10V)		ACH7194
	C3204, C3216, C3231		CCSRCH101J50
	C3211, C3225-C3227, C3238-C3240		CCSRCH181J50
	C3242-C3244		CCSRCH181J50
	C3234		CCSRCH330J50
	C3208		CCSRCH470J50
	C3210, C3222, C3224		CEAT100M50
	C3245-C3247, C3249-C3251		CEAT101M16
	C3255-C3257, C3259-C3263, C3270		CEAT101M16
	C3272-C3274, C3282, C3283		CEAT101M16
	C3290, C3291		CEAT101M16
	C3248, C3258, C3271, C3275		CEAT1R0M50
	C3264		CEAT3R3M50
	C3229, C3280, C3281, C3288, C3289		CKSRYB103K50
	C3201, C3212, C3215, C3220, C3228		CKSRYB104K16
	C3230, C3237, C3241		CKSRYB104K16
	C3202, C3203, C3205-C3207		CKSRYB473K50
	C3213, C3214, C3218, C3219		CKSRYB473K50
	C3232, C3233, C3235, C3236		CKSRYB473K50
	RESISTORS		
	Other Resistors		RS1/16S###J
	OTHERS		
	JA3204	CMOB. JACK (S+1P)	AKB7159
	JA3201-JA3203	COMB. JACK (2S+2P)	AKB7160
	CN3202	CONNECTOR	B10B-PH-K
	JA3205	1P PIN JACK	VKB1156
	CN3201	11P SOCKET	XKP3076
	CN3203	15P SOCKET	XKP3078

J MAIN CONTROL ASSY

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	IC651		BU1924F
	IC502, IC503		BU4094BCF
	IC202		NJM4558MD
	IC501		PEG040B8
	IC511		TC74VHC08FT
	IC302		TC74VHCT244AFT
	IC103		TC9163AF
	IC201		TC9164AF
	IC104		TC9215AF
	IC101		TC9274F-019
	IC701-IC704		TC94A07F
	IC102, IC105, IC106, IC711-IC714		UPC4570G2-A
	Q651		2SA1036K
	Q101, Q102		2SC3326
	Q653		2SC4081
	Q601		2SD1858X
	Q104, Q105		2SK208

Mark	No.	Description	Part No.
	Q103, Q106, Q251, Q511		DTA124EUA
	Q107		DTC124EUA
	Q501, Q652		DTC143EUA
	D501, D502, D511, D521-D524		1SS355
	D531, D532, D602, D821, D822		1SS355
	D831, D832		1SS355
	D601		UDZS10(B)

COILS AND FILTERS

	L501	LCYA2R2J2520
	L651	LFCA2R2J
⚠	L891-L897	QTL1013
	L898, L900-L902	QTL1013

CAPACITORS

	C113, C114, C125-C127	CCSRCH101J50
	C151-C153, C201-C203	CCSRCH101J50
	C725-C727, C745-C747	CCSRCH101J50
	C765-C767, C785-C787	CCSRCH101J50
	C103-C112, C115, C116	CCSRCH221J50
	C651, C652	CCSRCH270J50
	C117, C118, C139, C140	CCSRCH470J50
	C719, C720, C739, C740	CCSRCH680J50
	C759, C760, C779, C780	CCSRCH680J50
	C131, C132, C163, C167	CEAT100M50
	C172, C173, C621, C622	CEAT100M50
	C701, C702, C713, C714	CEAT100M50
	C733, C734, C753, C754	CEAT100M50
	C773, C774	CEAT100M50
	C654	CEAT101M10
	C303, C304, C602	CEAT101M16
	C211, C212	CEAT1R0M50
	C506, C513	CEAT221M10
	C505, C655	CEAT2R2M50
	C503	CEAT331M10
	C717, C718, C721, C722	CEAT470M25
	C737, C738, C741, C742	CEAT470M25
	C757, C758, C761, C762	CEAT470M25
	C777, C778, C781, C782	CEAT470M25
	C133, C134	CEAT470M50
	C511	CEAT471M10
	C748, C749, C768, C769	CEVW100M16
	C788, C789	CEVW100M16
	C510	CKSQYF105Z16
	C601	CKSQYF225Z16
	C653, C901, C903	CKSRYB102K50
	C128, C129, C137, C138	CKSRYB103K50
	C155-C157, C162, C166, C176	CKSRYB103K50
	C178, C204, C205, C213, C214	CKSRYB103K50
	C251, C302, C502, C507, C509	CKSRYB103K50
	C514, C515, C535, C540, C598	CKSRYB103K50
	C711, C712, C723, C724	CKSRYB103K50
	C731, C732, C743, C744	CKSRYB103K50
	C751, C752, C763, C764	CKSRYB103K50
	C771, C772, C783, C784, C891	CKSRYB103K50
	C908	CKSRYB103K50
	C896, C900, C902	CKSRYB104K16
	C512, C656	CKSRYB472K50
	C154, C599, C821, C831	CKSRYB473K50
	C658	CKSRYB561K50
	C161, C164, C174, C175	CKSRYF104Z25
	C508 (1.0F/5.5V)	PCH1132

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	X651 (4.332MHz)	ASS7004
	X501 (15.7MHZ)	ASS7032
	CN552 10PFFC CONNECTOR	52045-1045
	CN601 11P FFC CONNECTOR	52045-1145
	CN801 24P FFC CONNECTOR	52045-2445
	CN501 32P FFC CONNECTOR	52045-3245
	CN201 7P PLUG	AKP7056
	CN103 9P PLUG	AKP7057
	CN102 13P PLUG	AKP7059
	CN101 15P PLUG	AKP7060
	CN3, CN351 7P SOCKET	AKP7067
	CN2 9P SOCKET	AKP7068
	CN502 19P SOCKET	AKP7073
	CN302 21P SOCKET	AKP7074
	CN551 KR CONNECTOR	B8B-PH-K
	CN1 3P PLUG	KM250NA3L
	J602 CONNECTOR ASSY	PF10PG-B10
	JA594 REMOTE CONTROL JACK	RKN1004
	JA592, JA593 REMOTE CONTROL JACK	RKN1026
	551 PCB BINDER	VEF1040
	JA111-JA113 4P PIN JACK	VKB1133
	CN301 21P FFC CONNECTOR	VKN1197
	JA591 MINI JACK (4P)	XKN3015

K MIC & F.OPT IN ASSY

COILS AND FILTERS

	L1601	ATL7002
⚠	L1602, L1603	QTL1013

CAPACITORS

	C1601, C1606	CCSRCH471J50
	C1603	CEAL470M16
	C1611	CKSRYB102K50
	C1602, C1612, C1614	CKSRYB103K50

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	CN1601 4P FFC CONNECTOR	52044-0445
	J1601 CORD WITH PLUG	ADX7417
	JA1601 OPTICAL LINK IN	GP1FA502RZ
	JA1606 REMOTE CONTROL JACK	RKN1004
	CN1602 KR CONNECTOR	S3B-PH-K

L MIC AMP ASSY

SEMICONDUCTORS

⚠	IC4751	NJM78L05A
	IC4752	UPC4570G2-A
	D4751, D4752	UDZS5R1(B)

CAPACITORS

	C4753	CCSRCH101J50
	C4754	CCSRCH330J50
	C4751, C4752, C4755-C4757	CEAT100M50
	C4758, C4762-C4765	CKSRYB473K50

Mark	No.	Description	Part No.
		RESISTORS	
	R4756		RD1/4MUF471J
	Other Resistors		RS1/16S###J
		OTHERS	
	CN4752	4P JUMPER CONNECTOR	52147-0410
	CN4751	KR CONNECTOR	B3B-PH-K
	KN4751	EARTH METAL FITTING	VNF1084
		M DSP CONNECTION ASSY	
		SEMICONDUCTORS	
	IC1651, IC1653		TC74LVX244FT
		COILS AND FILTERS	
	L1651, L1652		QTL1013
		CAPACITORS	
	C1651		CKSRYB103K50
	C1653		CKSRYB104K16
		RESISTORS	
	Other Resistors		RS1/16S###J
		OTHERS	
	CN1651	B TO B CONNECTOR 50P	AKP7177
	CN1652-CN1654	17P SOCKET	XKP3079
		N POWER AMP IN ASSY	
		SEMICONDUCTORS	
	Q4001		2SC2412K
	D4001		1SS355
		CAPACITORS	
	C4002		CKSRYB104K16
	C4001		CKSRYB223K50
		RESISTORS	
	Other Resistors		RS1/16S###J
		OTHERS	
	4001	10P CABLE HOLDER	51048-1000
	CN4001	24P FFC CONNECTOR	52044-2445
	J12	JUMPER WIRE 10P	D20PYY1010E
	CN4004	3PIN CONNECTOR	S3B-EH
	CN4003	17P PLUG	XKP3068
	CN4002	19P PLUG	XKP3069
		O FAN CONNECTION ASSY	
		SEMICONDUCTORS	
⚠	IC4701, IC4702	PROTECTOR(200mA)	AEK7023
		OTHERS	
	4701	9P CABLE HOLDER	51048-0900
	CN4701	6P JUMPER CONNECTOR	52147-0610
	CN4702	3P TOP POST	B3B-EH
	J4701	JUMPER WIRE 9P	D20PYY0915E

Mark	No.	Description	Part No.
		P FAN DRIVE ASSY	
		SEMICONDUCTORS	
	Q4056		2SA1037K
	Q4051		2SC4793D1
	Q4052		DTA124EK
	Q4055		DTC114EK
	Q4053		DTC124EK
⚠	D4051, D4052		1SR154-400
	D4058, D4059		1SS355
	D4055		UDZS12(B)
	D4053		UDZS27(B)
	D4057		UDZS5R1(B)
		CAPACITORS	
	C4054		CEAT101M16
	C4052		CEAT1R0M50
	C4055, C4056		CEAT331M63
	C4051		CEAT471M35
	C4053		CKSRYB103K50
		RESISTORS	
	Other Resistors		RS1/16S###J
		OTHERS	
	CN4051	9P JUMPER CONNECTOR	52147-0910
	CN4054	10P JUMPER CONNECTOR	52147-1010
		Q DSP ASSY	
		SEMICONDUCTORS	
	IC201		AK4114VQ
	IC561		AK4382AVT
	IC501, IC521, IC541		AK4383VT
	IC101		AK5380VT
	IC301, IC401		DSPC56367PV150
	IC451		IC61LV25616-12T
	IC302		IC61LV6416-12T
	IC303		IC63LV1024-12T
⚠	IC901		NJM2391DL1-33
	IC601, IC621, IC641, IC661, IC681		NJM4565MD
⚠	IC902		NJU7223DL1-18
	IC471		PD8133A
	IC701		TC74VHC157FT
	IC304		TC74VHCU04FT
	IC503, IC705, IC706		TC7SH04FU
	IC305		TC7WH125FU
	Q681, Q682		2SK208
	Q683, Q701, Q971, Q972, Q974		UN5112
	Q684, Q702, Q973		UN5212
	Q601, Q621, Q641, Q661		XP4506
	D681, D682, D721		1SS355
	D702		DAN202K
	D701, D971, D972		DAP202K
	D101-D104		RB501V-40
		COILS AND FILTERS	
	L301-L304, L401, L402, L451		ATL7002
	L471, L904, L906, L907		ATL7002
	L101-L104, L201-L203		QTL1013
	L305, L306, L501, L503, L511		QTL1013
	L521, L531, L541, L551, L561		QTL1013
	L571, L701, L705, L706		QTL1013

Mark	No.	Description	Part No.
		CAPACITORS	
	C339, C340		CCSRCH100D50
A	C202		CCSRCH150J50
	C623, C625, C643-C646		CCSRCH151J50
	C663-C666		CCSRCH151J50
	C201		CCSRCH220J50
	C204, C206, C209, C301, C302		CCSRCH471J50
	C304, C306, C308, C309, C312		CCSRCH471J50
	C314, C316, C318, C319		CCSRCH471J50
	C321, C322, C325, C326		CCSRCH471J50
	C329, C330, C332, C333, C335		CCSRCH471J50
	C345, C346, C402, C404-C408		CCSRCH471J50
	C410-C418, C420-C422		CCSRCH471J50
B	C424-C426, C471		CCSRCH471J50
	C603-C606		CCSRCH820J50
	C111, C112, C502, C522, C542		CEVW100M16
	C562, C607, C608, C627, C628		CEVW100M16
	C647, C648, C667, C668		CEVW100M16
	C681, C682		CEVW100M16
	C104, C105, C551, C907, C909		CEVW101M16
	C106		CEVW2R2M50
	C901, C902		CEVW330M25
	C210, C341, C401		CEVW470M6R3
	C212, C614, C618, C624, C626		CKSRYB102K50
C	C683-C685, C689, C693, C695		CKSRYB102K50
	C927		CKSRYB102K50
	C337, C343, C349, C429, C503		CKSRYB103K50
	C619, C620, C677, C678, C701		CKSRYB103K50
	C711-C716, C747, C921, C922		CKSRYB103K50
	C941		CKSRYB103K50
	C101-C103, C205, C207, C208		CKSRYB104K16
	C211, C305, C307, C310, C311		CKSRYB104K16
	C313, C315, C324, C331, C334		CKSRYB104K16
	C352, C409, C419, C423, C427		CKSRYB104K16
	C451, C452, C501, C521, C541		CKSRYB104K16
D	C561, C591, C630, C705, C706		CKSRYB104K16
	C906, C908		CKSRYB104K16
	C303, C338, C348, C403, C599		CKSRYB105K6R3
	C702		CKSRYB105K6R3
	C109, C110, C622		CKSRYB222K50
	C601, C602, C609, C610		CKSRYB332K50
	C621, C641, C642, C661, C662		CKSRYB392K50
	C629, C649, C650, C669, C670		CKSRYB472K50
	C971		CKSRYB472K50
	C926		CKSRYB473K16
E	C203		CKSRYB474K10
	C323, C428		CKSRYB563K16
	C107, C611-C613, C615		CKSRYF104Z25
	C671, C672, C694, C696-C698		CKSRYF104Z25
	RESISTORS		
	R851		RAB4C101J
	R204, R225, R226, R229, R701		RAB4C104J
	R712		RAB4C104J
	R221		RS1/16S1802F
	Other Resistors		RS1/16S###J
F	**OTHERS**		
	CN102	B TO B CONNECTOR 50P	AKP7176
	X201 (24MHz)		ASS7025
	X301 (33MHz)		ASS7040

Mark	No.	Description	Part No.
	CN702	10P FFC CONNECTOR	VKN1414
	CN101	20P FFC CONNECTOR	VKN1424
	CN601	21P FFC CONNECTOR	VKN1425
	CN701	22P FFC CONNECTOR	VKN1426
	KN931	EARTH METAL FITTING	VNF1109

R1394 ASSY

		SEMICONDUCTORS	
	IC302		K4S641632H-TC75
⚠	IC1		NJM2391DL1-33
	IC303		NJU7093AF
	IC101		PD5787A
	IC301		PD8112A
	IC103		PST9245
⚠	IC410		S-L2980A25MC-C6K
	IC401		SM5819AF
	IC405		TC74VHC541FT
	IC104		TC74VHCT125AFT
	IC205		TC7SH08FU
	IC404		TC7SZ125FU
	IC409		TC7SZ126FU
	IC201		TSB43CA42ZGW
	Q101, Q301		DTA124EUA
	Q401		DTA143EUA
	D102		RB501V-40
	COILS AND FILTERS		
⚠	L204-L207		ATH7015
	L1, L101, L201-L203		ATL7002
	L301, L302, L401, L403-L405		ATL7002
	CAPACITORS		
	C329 (10u/6.3V)		ACG7046
	C2, C401, C428 (220u/6.3V)		ACH7195
	C242, C243		CCSRCH221J50
	C402		CCSRCH471J50
	C103, C206, C217, C232, C304		CEVW101M16
	C321, C419		CEVW101M16
	C113, C211, C213, C215, C216		CKSRYB102K50
	C310, C324		CKSRYB102K50
	C101, C111		CKSRYB103K50
	C1, C102, C104-C110		CKSRYB104K16
	C201-C205, C207, C209, C210		CKSRYB104K16
	C212, C214, C218-C226, C235		CKSRYB104K16
	C241, C246-C249, C301-C303		CKSRYB104K16
	C305, C309, C311, C315-C320		CKSRYB104K16
	C322, C323, C325, C327, C333		CKSRYB104K16
	C404, C405, C408-C412		CKSRYB104K16
	C415, C416, C420, C424, C427		CKSRYB104K16
	C244, C245, C326		CKSRYB105K6R3
	C330		CKSRYB472K50
	C328		CKSRYB474K10
	RESISTORS		
	R119, R127-R130, R205		RAB4C101J
	R230-R233, R245, R246, R445		RAB4C101J
	R122		RAB4C103J
	R407		RAB4C221J
	R308, R339, R340, R343-R347		RAB4C470J
	R350		RAB4C470J
	R135-R138, R206, R216		RAB4C472J

Mark	No.	Description	Part No.
		R220, R221, R223, R234	RAB4C472J
		R238-R240	RAB4C472J
		R302, R402	RAB4C680J
		R275, R276	RS1/16S5101F
		R267-R274	RS1/16S56R0D
		R213	RS1/16S6341D
		Other Resistors	RS1/16S###J

OTHERS

		X101 (6.14MHz)	VSS1179
		X302 (22.5792MHz)	ASS7054
		X201 (24.5760MHz)	ASS7055
	CN101	7P CONNECTOR	RKN1048
	CN402	10P CONNECTOR	VKN1414
	CN401	22P CONNECTOR	VKN1426
	JA201, JA202	1394 TERMINAL	VKN1800

S DISPLAY ASSY

SEMICONDUCTORS

		IC3000	PEG041B
		IC3002	RPM7140-H4
		IC3001	TC7W53FU
		Q3003	2SA1037K
		Q3001, Q3002	DTC124EK
		Q3000	FMA1A
		Q3004	HN1C01FU
		D3002-D3008	1SS355
		D3001	BR5064X
		D3009	DAN202K
		D3011	NSPB510-2283
		D3000	SLI-343DUW
		D3010	UDZS6R2(B)

COILS AND FILTERS

		L3000	ATL7002

SWITCHES AND RELAYS

		S3000-S3017	VSG1024

CAPACITORS

		C3003, C3004, C3007, C3024, C3025	CCSRCH101J50
		C3020, C3021, C3026, C3027	CEJQ100M16
		C3028, C3029	CEJQ101M10
		C3008, C3012, C3035	CEJQ101M6R3
		C3022, C3023	CEJQ330M25
		C3000-C3002	CKSRYB102K50
		C3009, C3011, C3032-C3034	CKSRYB103K50
		C3036, C3037	CKSRYB103K50
		C3006, C3031	CKSRYB104K16
		C3010	CKSRYB153K50
		C3030	CKSRYF104Z50

RESISTORS

		Other Resistors	RS1/16S###J

OTHERS

		X3000 (4.19MHz)	ASS7042
	3008	4P CABLE HOLDER	51048-0400
	3002	5P CABLE HOLDER	51048-0500
	3003	7P CABLE HOLDER	51048-0700
	CN3007	3P FFC CONNECTOR	52045-0345
	CN3004	4P FFC CONNECTOR	52045-0445
	CN3005	7P FFC CONNECTOR	52045-0745
	CN3001	11P FFC CONNECTOR	52045-1145
	CN3006	32P FFC CONNECTOR	52045-3245
	V3000	FL TUBE	AAV7087
	J3008	JUMPER WIRE 4P	D20PYY0415E
	J3002	JUMPER WIRE 5P	D20PYY0510E
	J3003	JUMPER WIRE 7P	D20PYY0715E
	3001	FL HOLDER	VNF1085

T VOLUME ASSY

SWITCHES AND RELAYS

		S3401	ASX7037
		S3402-S3404	VSG1024

CAPACITORS

		C3401, C3402	CKSRYB103K50

RESISTORS

		Other Resistors	RS1/16S###J

OTHERS

	CN3401	5P JUMPER CONNECTOR	52147-0510

U MULTI JOG ASSY

SWITCHES AND RELAYS

		S3451	ASX7038
		S3452-S3455	VSG1024

CAPACITORS

		C3451, C3452	CKSRYB103K50

RESISTORS

		Other Resistors	RS1/16S###J

OTHERS

	CN3451	7P JUMPER CONNECTOR	52147-0710
	3452	3P CABLE HOLDER	51048-0300
	J3452	JUMPER WIRE	D20PYY0310E

V HEADPHONE ASSY

CAPACITORS

		C1951, C1952	CKSRYB392K50

RESISTORS

		Other Resistors	RS1/16S###J

OTHERS

	CN1951	3P FFC CONNECTOR	52045-0345
	1951	PHONE JACK	AKN7029
	KN1951	EARTH METAL FITTING	VNF1084

W POWER AMP-L ASSY

SEMICONDUCTORS

⚠		IC4101, IC4201, IC4301	PA9009A
⚠		IC4102, IC4202, IC4302	PBD001A
⚠		IC4103, IC4203, IC4303, IC4453	PBD002A
		Q4102, Q4202, Q4302	2SA1255
		Q4101, Q4201, Q4301	2SC3326

Mark	No.	Description	Part No.
	D4102, D4104-D4107, D4202		1SS355
	D4204-D4207, D4302, D4304-D4307		1SS355
	D4101, D4103, D4201, D4203, D4301		UDZS10(B)
	D4303		UDZS10(B)

CAPACITORS

	C4106, C4107, C4206, C4207	ACG7041
	C4306, C4307 (220u/100V)	ACG7041
	C4102, C4202, C4302	CCSRCH331J50
	C4112, C4113, C4212, C4213	CCSRCH6R0D50
	C4312, C4313	CCSRCH6R0D50
	C4114, C4214, C4314	CEANP1R0M50
	C4401, C4402	CEAT331M63
	C4110, C4111, C4210, C4211	CEHAT100M2A
	C4310, C4311	CEHAT100M2A
	C4101, C4201, C4301	CEHAT100M50
	C4103, C4203, C4303	CEHAT331M10
	C4104, C4105, C4204, C4205	CEHAT470M63
	C4304, C4305	CEHAT470M63
	C4108, C4109, C4208, C4209	CEHAZL470M25
	C4308, C4309	CEHAZL470M25

RESISTORS

⚠	R4131, R4132, R4231, R4232	ACN7107
⚠	R4331, R4332, R4482 (0.1)	ACN7107
⚠	R4119, R4219, R4319 (0.22/5W)	ACN7121
	R4112, R4212, R4312	RN1/10SE3302D
	Other Resistors	RS1/16S###J

OTHERS

	Y2 LEAD WITH HOUSING	ADX7398
	Y3 LEAD WITH HOUSING	ADX7399
	Y5 LEAD WITH HOUSING	ADX7404
	CN4403 3P TOP POST	B3B-EH
	CN4456 10P PLUG	KM250NA10L
	KN4401, KN4402	VNF1084
	ERATH METAL FITTING	
	CN4401 17P SOCKET	XKP3079

X POWER AMP-R ASSY

SEMICONDUCTORS

⚠	IC4151, IC4251, IC4351	PA9009A
⚠	IC4152, IC4252, IC4352, IC4452	PBD001A
⚠	IC4153, IC4253, IC4353	PBD002A
	Q4152, Q4252, Q4352	2SA1255
	Q4403, Q4404	2SC2412K
	Q4151, Q4251, Q4351	2SC3326
	D4152, D4154-D4157, D4252	1SS355
	D4254-D4257, D4352, D4354-D4357	1SS355
	D4151, D4153, D4251, D4253, D4351	UDZS10(B)
	D4353	UDZS10(B)

CAPACITORS

	C4156, C4157, C4256, C4257	ACG7041
	C4356, C4357 (220u/100V)	ACG7041
	C4152, C4252, C4352	CCSRCH331J50
	C4162, C4163, C4262, C4263	CCSRCH6R0D50
	C4362, C4363	CCSRCH6R0D50
	C4164, C4264, C4364	CEANP1R0M50
	C4405	CEAT331M10
	C4403, C4404	CEAT331M63
	C4160, C4161, C4260, C4261	CEHAT100M2A
	C4360, C4361	CEHAT100M2A
	C4151, C4251, C4351	CEHAT100M50
	C4153, C4253, C4353	CEHAT331M10
	C4154, C4155, C4254, C4255	CEHAT470M63
	C4354, C4355	CEHAT470M63
	C4158, C4159, C4258, C4259	CEHAZL470M25
	C4358, C4359	CEHAZL470M25

RESISTORS

⚠	R4181, R4182, R4281, R4282	ACN7107
⚠	R4381, R4382, R4481 (0.1)	ACN7107
⚠	R4169, R4269, R4369 (0.22/5W)	ACN7121
	R4162, R4262, R4362	RN1/10SE3302D
	Other Resistors	RS1/16S###J

OTHERS

	Y1 LEAD WITH HOUSING	ADX7397
	Y4 LEAD WITH HOUSING	ADX7400
	Y6 LEAD WITH HOUSING	ADX7404
	CN4454 10P PLUG	KM250NA10L
	KN4403, KN4404	VNF1084
	EARTH METAL FITTING	
	CN4402 19P SOCKET	XKP3080

Y POWER AMP-C ASSY

SEMICONDUCTORS

⚠	IC4451	PA9009A
	Q4452	2SA1255
	Q4451	2SC3326
	D4452, D4454-D4457	1SS355
	D4451, D4453	UDZS10(B)

CAPACITORS

	C4456, C4457 (220u/100V)	ACG7041
	C4452	CCSRCH331J50
	C4462, C4463	CCSRCH6R0D50
	C4464	CEANP1R0M50
	C4460, C4461	CEHAT100M2A
	C4451	CEHAT100M50
	C4453	CEHAT331M10
	C4454, C4455	CEHAT470M63
	C4458, C4459	CEHAZL470M25

RESISTORS

⚠	R4469 (0.22/5W)	ACN7121
	R4462	RN1/10SE3302D
	Other Resistors	RS1/16S###J

OTHERS

	CN4453, CN4455 10P SOCKET	KP250NA10

Z REGULATOR ASSY

SEMICONDUCTORS

⚠	IC2411	AEK7003
⚠	IC2409	NJM78L05A
	IC2410	NJM78L05A
⚠	IC2404, IC2405	NJM78M05FA
⚠	IC2403	NJM78M12FA
⚠	IC2401	NJM78M15FA
⚠	IC2407	NJM78M56FA
⚠	IC2406	NJM79M05FA
⚠	IC2402	NJM79M15FA
⚠	Q2401	2SA1803

Mark	No.	Description	Part No.
	Q2402		2SA1803
⚠	D2401-D2404, D2407-D2410		1SR154-400
⚠	D2418, D2419		1SR154-400
⚠	D2415		D3SBA20(B)
	D2405, D2406, D2413, D2414		RB501V-40
	D2420		UDZS10(B)
	D2421, D2422		UDZS15(B)
	D2423, D2424		UDZS6R2(B)
	CAPACITORS		
	C2401, C2402 (3300u/35V)		ACH7191
	C2433 (4700u/16V)		ACH7192
	C2446		CCSRCH101J50
	C2440		CEANP470M35
	C2415, C2416		CEAT101M16
	C2408		CEAT101M25
	C2405, C2406, C2410, C2429		CEAT221M35
	C2411, C2412		CEAT222M16
	C2435, C2438		CEAT2R2M50
	C2443		CEAT331M10
	C2442		CEAT470M50
	C2441		CEAT470M63
	C2436, C2439		CEAT471M16
	C2451, C2452		CKSRYB102K50
	C2403, C2404, C2407, C2409		CKSRYB103K50
	C2413, C2414, C2428, C2434, C2437		CKSRYB103K50
	C2453, C2499		CKSRYB103K50
	C2424		CKSRYB473K50
	C2444		CQMBA104J50
	RESISTORS		
	R2403		RD1/4MUF121J
	R2401, R2402		RD1/4MUF470J
	R2499		RS3LMF101J
	R2496		RS3LMF470J
	Other Resistors		RS1/16S###J
	OTHERS		
	2402	7P CABLE HOLDER	51048-0700
	CN2401	8P JUMPER CONNECTOR	52147-0810
	Y2401	BOARD IN JUMPER	ADX7420
	CN2403	4P PLUG	KM200TA4
	CN2415	3P SOCKET	KP250NA3
	KN2401-KN2403	EARTH METAL FITTING	VNF1084
	CN2411, CN2412	7P PLUG	XKP3063
	CN2406, CN2414	9P PLUG	XKP3064
	CN2405	11P PLUG	XKP3065
	CN2407-CN2409	17P PLUG	XKP3068
	CN2404, CN2413	19P PLUG	XKP3069
	CN2410	21P PLUG	XKP3070

AA SP/PS ASSY

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
	Q4602, Q4603		RN1903
	Q4601		RN4903
	D4601-D4610		1SS355
	COILS AND FILTERS		
	L4601-L4607	AF CHOKE COIL	ATH1053
	L4608, L4609	NOISE FILTER	RTF1167
	SWITCHES AND RELAYS		
	RY4601-RY4605		ASR7014
	CAPACITORS		
⚠	C4621, C4622		ACH7217
	C4623		CEAT101M50
	C4601-C4614		CFTNA224J50
	C4625-C4631		CQMBA103J50
	RESISTORS		
⚠	R4621-R4627		RD1/2LMF4R7J
	R4628-R4632		RD1/2VM331J
	R4615, R4616		RD1/4MUF473J
⚠	R4601-R4607		RS1LMF4R7J
⚠	R4613, R4614		RS1LMF471J
⚠	R4611, R4612		RS2LMF331J
	Other Resistors		RS1/16S###J
	OTHERS		
	4601	6P CABLE HOLDER	51048-0600
	4602	8P CABLE HOLDER	51048-0800
	Y13	BOARD IN JUMPER	ADX7291
	CN4611	8P SPEAKER TERMINAL	AKE7101
	CN4612	6P SPEAKER TERMAINAL	AKE7102
	J4602	JUMPER WIRE 8P	D20PYY0830E
	CN4610, CN4613	5P PLUG	KM200TA5

AB DIODE ASSY

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
⚠	D2241, D2242		LN6SB60-4003

AC TRANS 2-1 ASSY

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
⚠	IC2201, IC2202	PROTECTOR(3.15A)	AEK7016
	Q2201		DTC143EUA
	Q2202		RN4903
⚠	D2201		S1WB(A)60SD
	D2202		UDZS16(B)
	D2207, D2208		UDZS22(B)
	D2203-D2206, D2209-D2212		UDZS9R1(B)
	CAPACITORS		
⚠	C2202, C2203 (81u/100V)		ACH1237
	C2207, C2208 (470u/71V)		ACH7193
	C2209, C2210		CEAT101M63
	C2211, C2212		CEAT221M63
	RESISTORS		
⚠	R2205, R2206		RS1LMF332J
	Other Resistors		RS1/16S###J
	OTHERS		
	2201, 2202	6P CABLE HOLDER	51048-0600
	2203	6P CABLE HOLDER	51052-0600
	H2201-H2204	FUSE CLIP	AKR1004
	J2201	JUMPER WIRE 6P	D20PYY0615E
	J10	JUMPER WIRE	D25PYY0607E

AD VH TR ASSY

Mark	No.	Description	Part No.
	SEMICONDUCTORS		
⚠	Q2232		2SA1837D1

Mark	No.	Description	Part No.
⚠	Q2231		2SC4793D1
⚠	D2231, D2232		1SR154-400

RESISTORS

	Other Resistors		RS1/16S###J

OTHERS

	CN2231	6P LTYPE CONNECTOR	KPD6L

AE TRANS2-2 ASSY

SEMICONDUCTORS

⚠	IC2251, IC2252	PROTECTOR(3.15A)	AEK7016
⚠	IC2253	PROTECTOR(5A)	AEK7019

CAPACITORS

	C2251-C2253		CQMBA104J50

RESISTORS

⚠	R2251, R2252		RD1/4MUF100J

OTHERS

	2251	7P CABLE HOLDER	51048-0700

AF TRANS 1 ASSY

TRANS1 ASSY has no service parts.

AG PRIMARY ASSY

SEMICONDUCTORS

⚠	IC2001	NJM78M56FA
	Q2001	KRC101M
	D2002, D2004, D2005	1SS355
⚠	D2001	S1WB(A)60SD
	D2003	UDZS5R1(B)

COILS AND FILTERS

	L2002, L2003	FERRITE BEAD	VTH1013
⚠	L2001	LINE FILTER	XTF3004

TRANSFORMERS

⚠	T2001		ATT7040

SWITCHES AND RELAYS

⚠	RY2001		ASR7025

CAPACITORS

⚠	C2001, C2002 (0.01u/275V)		ACE7013
⚠	C2003 (10000pF/250V)		ACG7033
	C2008		CEAT102M25
	C2009		CEAT221M25
	C2005-C2007, C2011, C2012		CKSRYB103K50
	C2004		CQMA103J50

RESISTORS

	R2002		RD1/2VM101J
	Other Resistors		RS1/16S###J

OTHERS

	CN2002	11P FFC CONNECTOR	52045-1145
⚠	2007	AC INLET ASSY	ADX7464
⚠	CN2005	1P AC OUTLET	AKP1034
	H2001, H2002	FUSE CLIP	AKR7001
	CN2003, CN2004	5P SOCKET	KP200TA5L

Mark	No.	Description	Part No.
	KN2001	EARTH METAL FITTING	VNF1084

AH VIDEO CONVERT ASSY

SEMICONDUCTORS

	IC3505	BU4094BCF
	IC3501	MM1093NF
⚠	IC3507	NJM78L09A
	IC3514	TA1270BF
	IC3506	TA8772AN
	IC3504	TC74HC4053AFT
	IC3502, IC3503	TC74LVX4053FT
	IC3508	TC90A49F
	IC3509-IC3513	TK15420M
	Q3501, Q3502	2SA1576A
⚠	Q3507	2SA1576A
⚠	Q3503	2SC4081
	Q3504-Q3506, Q3508, Q3509	2SC4081
	Q3510, Q3511	DTC124EUA

COILS AND FILTERS

	L3507	ATL7002
	L3502, L3503, L3505, L3506, L3508	LAU100J
	L3501	LAU1R0J
	L3504	LAU270J

CAPACITORS

	C3515, C3522, C3537	CCSRCH100D50
	C3519	CCSRCH101J50
	C3578, C3579	CCSRCH120J50
	C3517	CCSRCH181J50
	C3552	CCSRCH390J50
	C3507	CCSRCH391J50
	C3542	CCSRCH560J50
	C3510	CCSRCH6R0D50
	C3615, C3616, C3620, C3625-C3627	CEVW100M16
	C3646	CEVW100M16
	C3613, C3617-C3619, C3621	CEVW101M16
	C3623, C3624, C3628-C3634, C3639	CEVW101M16
	C3641-C3644, C3647	CEVW101M16
	C3609, C3635-C3637	CEVW1R0M50
	C3638, C3640	CEVW2R2M50
	C3611, C3614, C3645	CEVW470M16
	C3610, C3612, C3622	CEVW4R7M35
	C3509	CKSRYB102K50
	C3504-C3506, C3508, C3511, C3513	CKSRYB103K50
	C3516, C3523-C3527, C3530, C3531	CKSRYB103K50
	C3533-C3536, C3538, C3539, C3541	CKSRYB103K50
	C3550, C3551, C3559, C3563	CKSRYB103K50
	C3568, C3569, C3571-C3575, C3582	CKSRYB103K50
	C3588, C3590, C3591, C3595-C3597	CKSRYB103K50
	C3599, C3604, C3607	CKSRYB103K50
	C3501-C3503, C3521, C3553-C3558	CKSRYB104K16
	C3581, C3583-C3586, C3589, C3594	CKSRYB104K16
	C3598, C3600, C3603, C3605, C3606	CKSRYB104K16
	C3545-C3547	CKSRYB105K6R3
	C3514	CKSRYB122K50
	C3576	CKSRYB222K50
	C3587	CKSRYB223K50
	C3577	CKSRYB224K10
	C3540, C3601, C3602	CKSRYB474K10
	C3512	CKSRYB561K50

Mark	No.	Description	Part No.

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

	CN3501 13P PLUG	AKP7059
	CN3502 15P PLUG	AKP7060
	X3503 (3.579545MHz)	ASS1091
	X3501, X3502 (4.433619MHz)	ASS1092
	X3504 (503kHz)	ASS7036
	3501, 3502 SCREW PLATE	VNE1948

A1 MECHA SW ASSY

SWITCHES AND RELAYS

	S2491	ASG1035

CAPACITORS

	C2491, C2492	CKSRYB103K50

OTHERS

	CN2491 3P JUMPER CONNECTOR	52147-0310

FM/AM TUNER UNIT

FM/AM TUNER UNIT has no service parts.

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 PROTECTION CIRCUIT CONTROL SPECIFICATION

Microcomputer-related ports

FAN_DRIVE (Expansion IC) : For Fan on/off
TEMP_IN (pin 94)
Input port (A/D) : To detect temperature
FAN_STOP (pin 95)
Input port : To detect Fan forced stop
OL_DET (pin 73)
Input port : To detect overloading at the amplifier (Interrupt port)
DC_DET (pin 63)
Input port : For DC detection
12V_DET (pin 2)
Input port : To detect 12V trigger

The following control processes are activated immediately before the relay system is turned on upon power-on. The time is 4.8 seconds after power-on. (Control of the relay system is enabled 5.2 seconds after power-on.)
Only DC detection is enabled 2 seconds after power-on to activate it before other protection functions.

① Fan control

1) Fan control

TEMPIN	Temperature (°C)	Fan	Remarks
More than 191	More than 100	ON	Mute ON & speaker relay OFF : The warning indication "OVERHEAT"
175 to 190	90 to 100	ON	Leading hold
156 to 174	80 to 90	ON	Mute OFF & speaker relay ON : Normal mode
134 to 155	70 to 80	Leading hold	
Less than 133	Less than 70	OFF	

2) Fan detection

If the fan is forcibly stopped, the FAN_DET port becomes "L".
Detecting "L" the microcomputer performs the following operations:
1. System muting on
2. Protection relays off

The warning indication "FAN STOP" appears (flashing) on the FL display.
If this status continues for more than 3 seconds, the power is turned off (for Standby mode).
If the port becomes "H" within 3 seconds, the unit resets automatically.
FAN_DET port performs the chattering check for 1 msec.
In addition, there is the case that detection delays for maximum 20 msec because performs monitor of FAN_DET port with a main loop.

3) Thermistor open detection

If a total (total of 50 times) of A/D value (TEMPIN) for one second is less than 250, the indication "THDCT NG" flashes.
If this status continues for 3 seconds, the power becomes the standby mode.

② Overload detection (abnormality detection)

If the speaker terminals are short-circuited or low-load driving is detected, the OL_DET port becomes "L".
Detecting "L" edge interrupt in an interrupt process, the microcomputer performs the following operations:
1. System muting on
2. Speaker relay off (Control with the display microcomputer)
3. Power off (Standby mode)

③ DC detection (defect detection)

Only DC detection is enabled 2 seconds after power-on.
If there is a fault in the power amplifier or a high-level signal lower than 5 Hz is input, the DC_DET port becomes "L".
Detecting "L" the microcomputer performs the following operations:
1. System muting on
2. Speaker relay off (Control with the display microcomputer)

The warning indication "AMP ERR" appears on the FL display.

If this status continues for more than 3 seconds, the power is turned off (for Standby mode) and flashes the standby LED.
Do not accept the key input afterward.
(Flash it always till turns the primary side off.)
If the port becomes "L" within 3 seconds, the unit resets automatically.

DC_DET port performs the chattering check for 1 msec.
In addition, there is the case that detection delays for maximum 20 msec because performs monitor of DC_DET port with a main loop.
Even if turns the primary side off and turns on once again, standby LED flashes as it is.
If detects DC once and turned the power off, do not accept the key input afterward.
However, power on is possible when the following key was pressed to be able to key input in the protection line and service.
1. Test mode (remote control code : A55F)
2. When the STEREO/DIRECT key and STREAM DIRECT key are both held pressed for 2 seconds.
(It is effective only when turned the power off with DC detection regarding step 2.)

④ Diagnostic mode

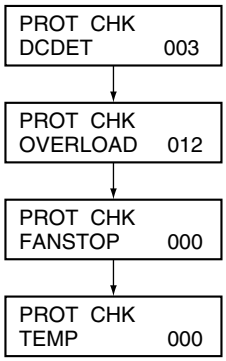
This mode is only for servicing and checking the circuit design, and not open to users.

When the STEREO/DIRECT key and TONE + key are both held pressed for 2 seconds in Standby mode, the power is turned on, and the number of times of each defect or Speaker relay off by abnormality detection is sequentially displayed on the FL display.

Displayed items:

- DC detection
- Overload detection
- Fan detection
- Temperature detection

Hold the STEREO/DIRECT key and TONE + key pressed for 2 seconds in Standby mode.



Display changes automatically every 3 seconds.

When the MULTI CH IN key and TONE – key are both held pressed for 2 seconds in standby mode, all clear the counter for detection.

● Protection Process List

Item	Purpose	Detection Method	Process	Warning Indication	Remarks
DC detection	To detect amplifier damage (defect status) A process to protect speakers (for protection of connected external devices)	Detects when the DC_DET port becomes "L".	Turns muting on and speaker relay off, then turns off the power after 3 seconds.	Flashing "AMP ERR" for 3 seconds. Flash the standby LED after the power off.	Once detected and turned the power off, input a key never again.
AMP overload	To detect overloading (abnormal status) With low-load driving or a short circuit of the speaker terminals (for protection of the amplifier)	Detects when the AMP_OL port becomes "L" (checks by interrupt).	Turns muting on and speaker relay off, and immediately turns off the power.	None	
Fan control	Protection function against a temperature rise at the heat sink	Detect temperature more than 100°C.	Turns muting on and speaker relay off. Rotate the fan	Continue flasing with "OVERHEAT"	
		Detect temperature of 90 to 100°C.	Rotate the fan		Mute, relay and warning indications is leading hold.
		Detect temperature of 74 to 90°C.	Rotate the fan		Mute off & relay on (normal mode)
		Detect temperature of 69 to 74°C.	Fan is leading hold		
		A condition except the above.	Stop the fan		
Fan stop	To know that the rotating fan is forcibly stopped	Detects when the FAN_DET port becomes "L".	Turns muting on and speaker relay off, then turns off the power after 3 seconds.	Flashing "FAN STOP" for 3 seconds	If the FAN_DET port becomes "H" within 3 seconds, the unit resets automatically. After the power off, the key input is possible once again.
12V trigger	To detect the shortcircuit of 12V trigger circuit	Detects when the 12V_DET port becomes "H".	Turns 12V_TRG port to "L", then turns off the 12V output.	Flashing "12V TRI ERR"	Only a fan that is assigned 12V TRIG is valid.Release the FL indication with the power on/off.

7.1.2 DIAGNOSTICS OF AMPLIFIER SECTION

When DC detection worked (STBY IND. flashes for a long time) in the protection circuit of foregoing section (or there is not the speaker output, probably only 1CH), failure (damage) of the power amplifier section is considered.

Because this receiver cannot diagnose the amplifier section by an electricity state by structure, please diagnose it in the following steps.

Caution:
When release the STBY (flashes) state before repair, Because there is the case that the damage progresses when turns the power on once again, please be careful.

- According to a symptom, perform the following confirmation beforehand.

1. Are not Fuse and IC protector opening it?

2-a. When can turn on electricity, confirm that supply voltage of the point that can measure is appropriate.

2-b. Furthermore, confirm that voltage ((in a no signal) DC and the appropriate signal output) between GND and R4621-4627 (Either of the amplifier side and the speaker terminal side is possible) (Or remove either of CN4601-4604). And limit failure CH.

If was able to limit failure CH, diagnose the CH in the following steps.

- **Use the tester basically and check that each part is not damaged (resistance value / open / short circuit).**

About parts with damaged possibility, explain FL ch to an example in order.

1. R4131, 4132 (ACN7107: 0.1 Ω, 1W chip drain resistor)
   IC 4102, 4103
   (PBD001A: Nch, PBD002A: Pch output POWER MOS Tr.)

2. R4119 (ACN7111: 0.22 Ω .5W ×2 cement source resistor)
   R4117, 4118
   (RS1/16S471J: 470 Ω chip resistor for protection circuit)
   D4101, 4103
   (UDZS10B: 10V Zener diode for current limiting)
   D4102, 4104 (1SS355: Small signal diodes same as above)
   R4110, 4111 (RS1/16S560J: 56 Ω chip gate resistor)
   R4106, 4107
   (RS1/16S101J:100 Ω chip IC4101 power filter resistor)

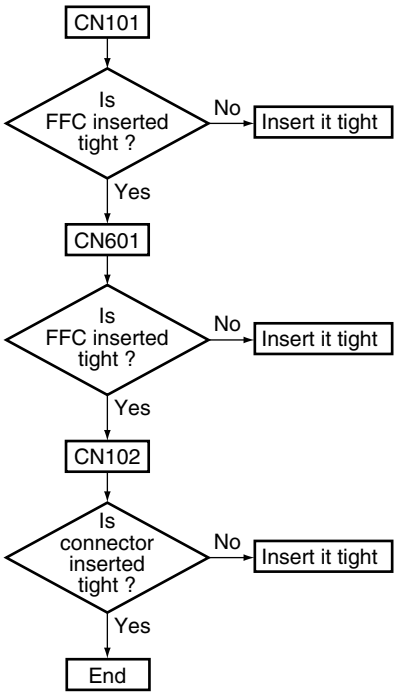
3. IC4101 (PA9009A: Power amplifier with output current bias Voltage step HIC)
   IC4701, 4702
   (AEK7023: 200mA IC protector /FAN CONNECTION Assy)

4. Q2231, 2232 (2SC4793,2SA1837 TO-220 Tr. /VH TR Assy)

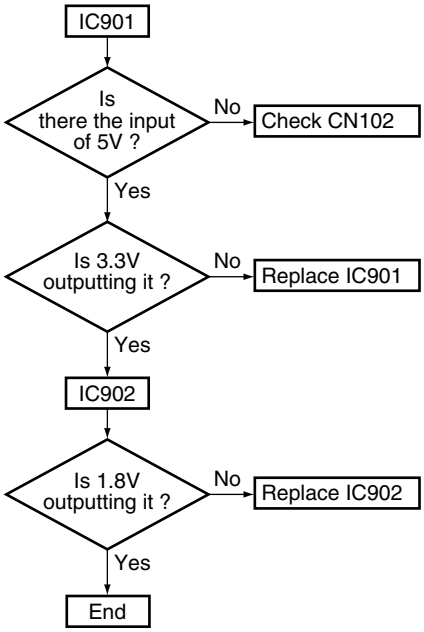
7.1.3 TROUBLE SHOOTING

- When a sound is not out in the surround mode with the digital signal input.
- Suppose CR to be poor contact and that is not damaged.
- This shows failure analysis of DSP Assy.

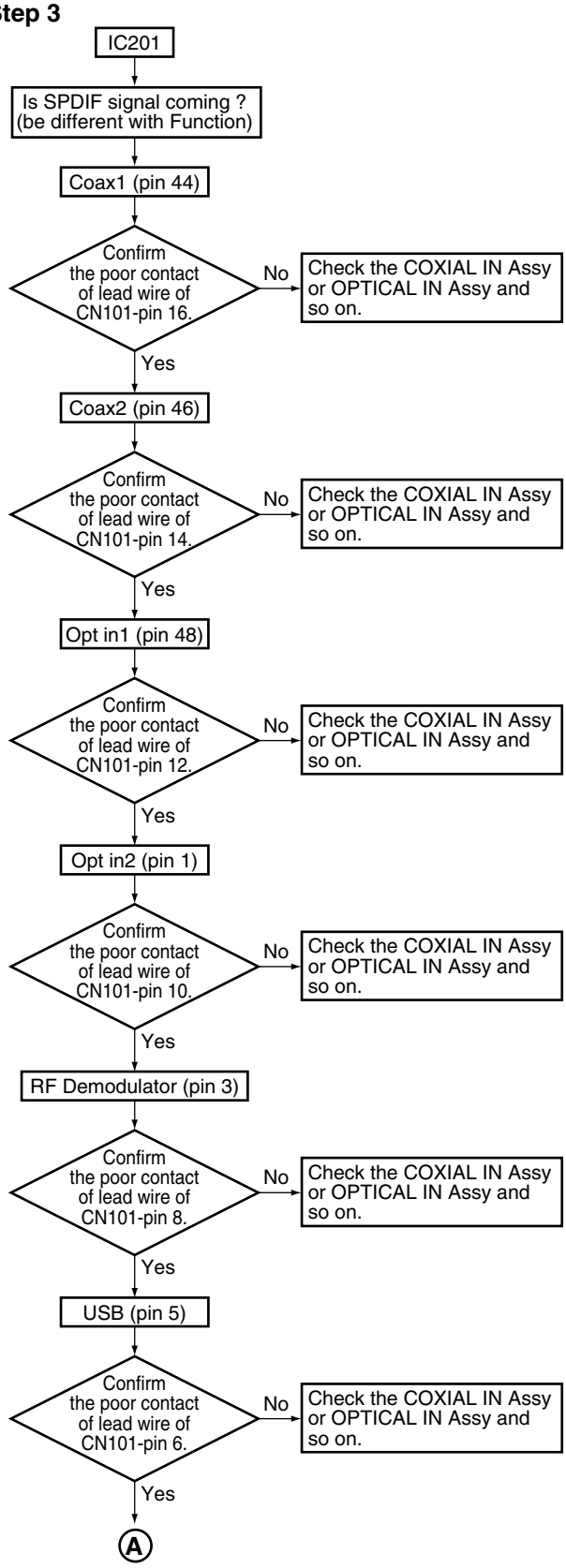
Step 1

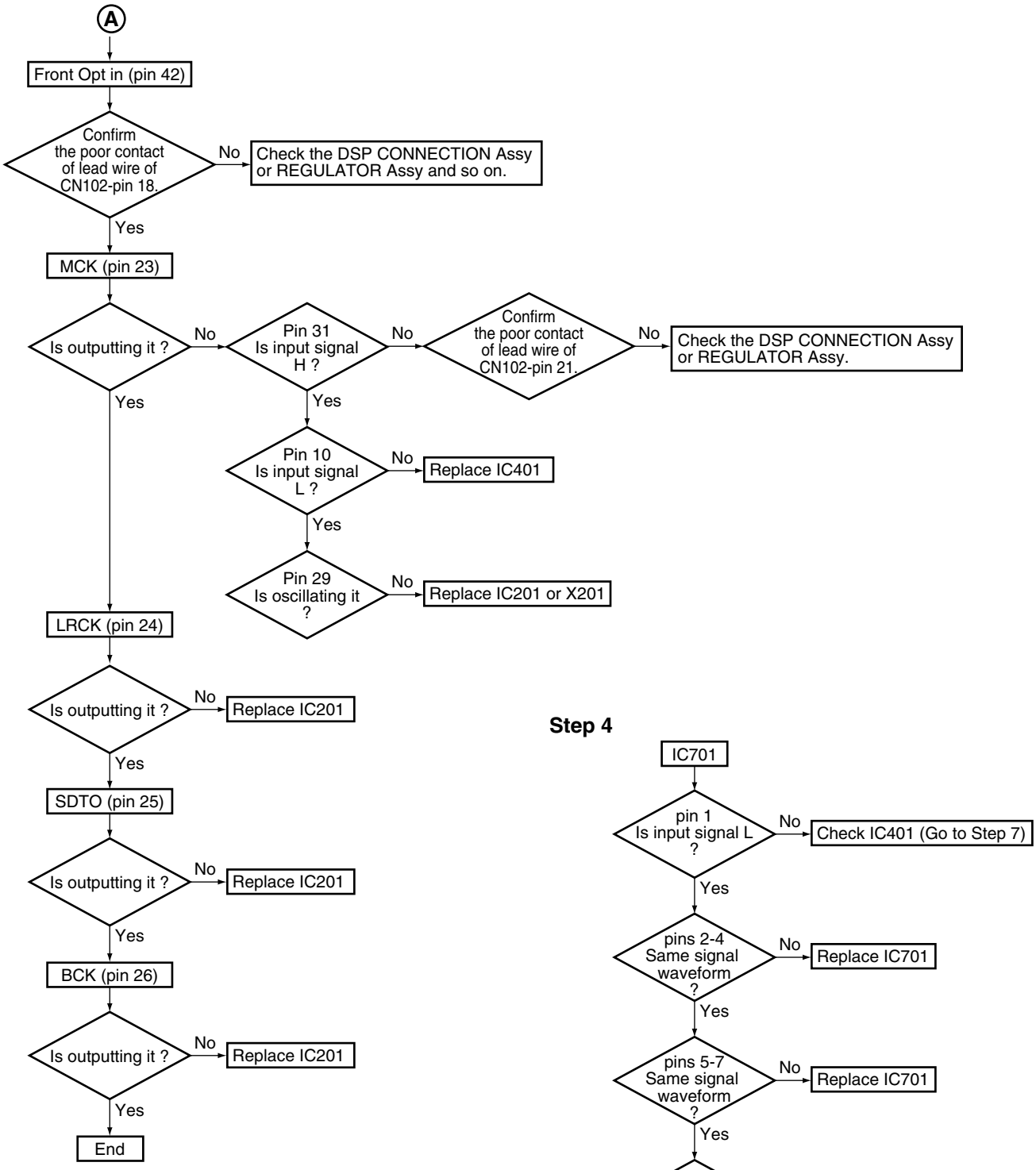


Step 2

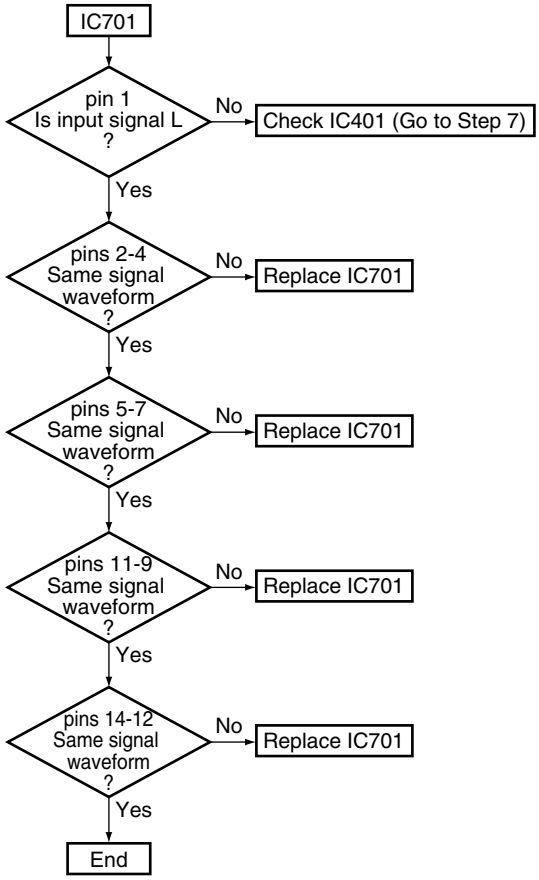


Step 3

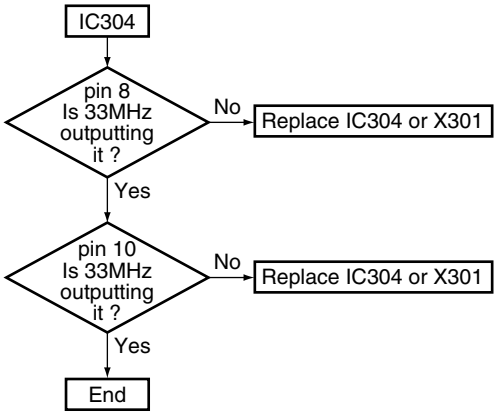

IC201
Is SPDIF signal coming ? (be different with Function)
Coax1 (pin 44)
Confirm the poor contact of lead wire of CN101-pin 16.
No
Check the COXIAL IN Assy or OPTICAL IN Assy and so on.
Yes
Coax2 (pin 46)
Confirm the poor contact of lead wire of CN101-pin 14.
No
Check the COXIAL IN Assy or OPTICAL IN Assy and so on.
Yes
Opt in1 (pin 48)
Confirm the poor contact of lead wire of CN101-pin 12.
No
Check the COXIAL IN Assy or OPTICAL IN Assy and so on.
Yes
Opt in2 (pin 1)
Confirm the poor contact of lead wire of CN101-pin 10.
No
Check the COXIAL IN Assy or OPTICAL IN Assy and so on.
Yes
RF Demodulator (pin 3)
Confirm the poor contact of lead wire of CN101-pin 8.
No
Check the COXIAL IN Assy or OPTICAL IN Assy and so on.
Yes
USB (pin 5)
Confirm the poor contact of lead wire of CN101-pin 6.
No
Check the COXIAL IN Assy or OPTICAL IN Assy and so on.
Yes
A


A
Front Opt in (pin 42)
Confirm the poor contact of lead wire of CN102-pin 18.
No
Check the DSP CONNECTION Assy or REGULATOR Assy and so on.
Yes
MCK (pin 23)
Is outputting it ?
No
Pin 31 Is input signal H ?
No
Confirm the poor contact of lead wire of CN102-pin 21.
No
Check the DSP CONNECTION Assy or REGULATOR Assy.
Yes
Yes
Pin 10 Is input signal L ?
No
Replace IC401
Yes
Pin 29 Is oscillating it ?
No
Replace IC201 or X201
LRCK (pin 24)
Is outputting it ?
No
Replace IC201
Yes
SDTO (pin 25)
Is outputting it ?
No
Replace IC201
Yes
BCK (pin 26)
Is outputting it ?
No
Replace IC201
Yes
End

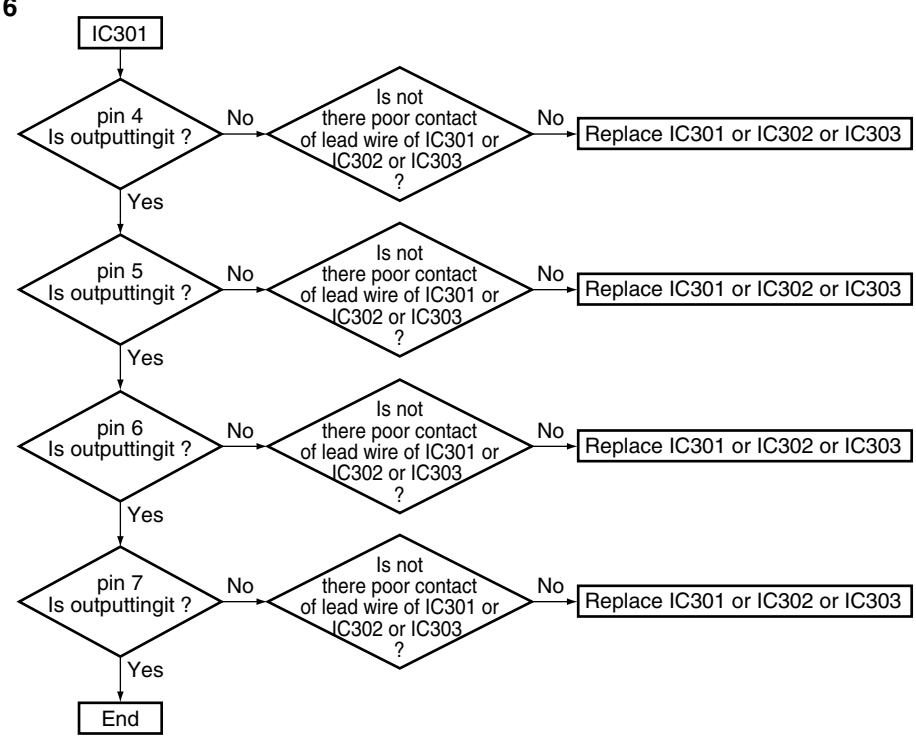
Step 4


IC701
pin 1 Is input signal L ?
No
Check IC401 (Go to Step 7)
Yes
pins 2-4 Same signal waveform ?
No
Replace IC701
Yes
pins 5-7 Same signal waveform ?
No
Replace IC701
Yes
pins 11-9 Same signal waveform ?
No
Replace IC701
Yes
pins 14-12 Same signal waveform ?
No
Replace IC701
Yes
End

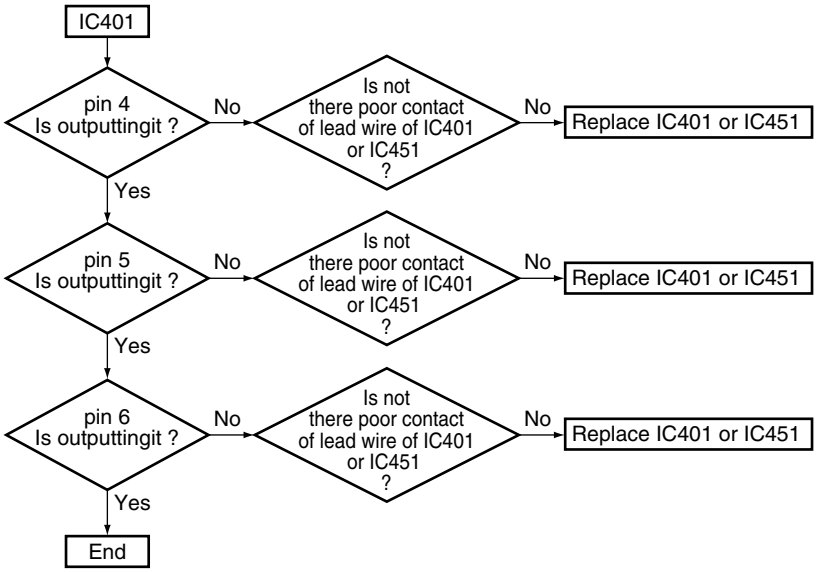
Step 5



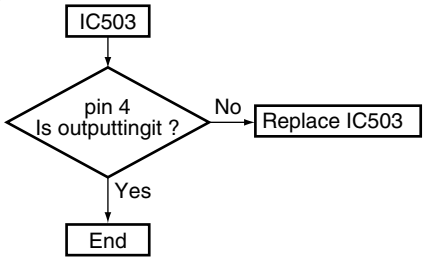
Step 6


IC301
pin 4 Is outputtingit ?
No
Is not there poor contact of lead wire of IC301 or IC302 or IC303 ?
No
Replace IC301 or IC302 or IC303
Yes
pin 5 Is outputtingit ?
No
Is not there poor contact of lead wire of IC301 or IC302 or IC303 ?
No
Replace IC301 or IC302 or IC303
Yes
pin 6 Is outputtingit ?
No
Is not there poor contact of lead wire of IC301 or IC302 or IC303 ?
No
Replace IC301 or IC302 or IC303
Yes
pin 7 Is outputtingit ?
No
Is not there poor contact of lead wire of IC301 or IC302 or IC303 ?
No
Replace IC301 or IC302 or IC303
Yes
End

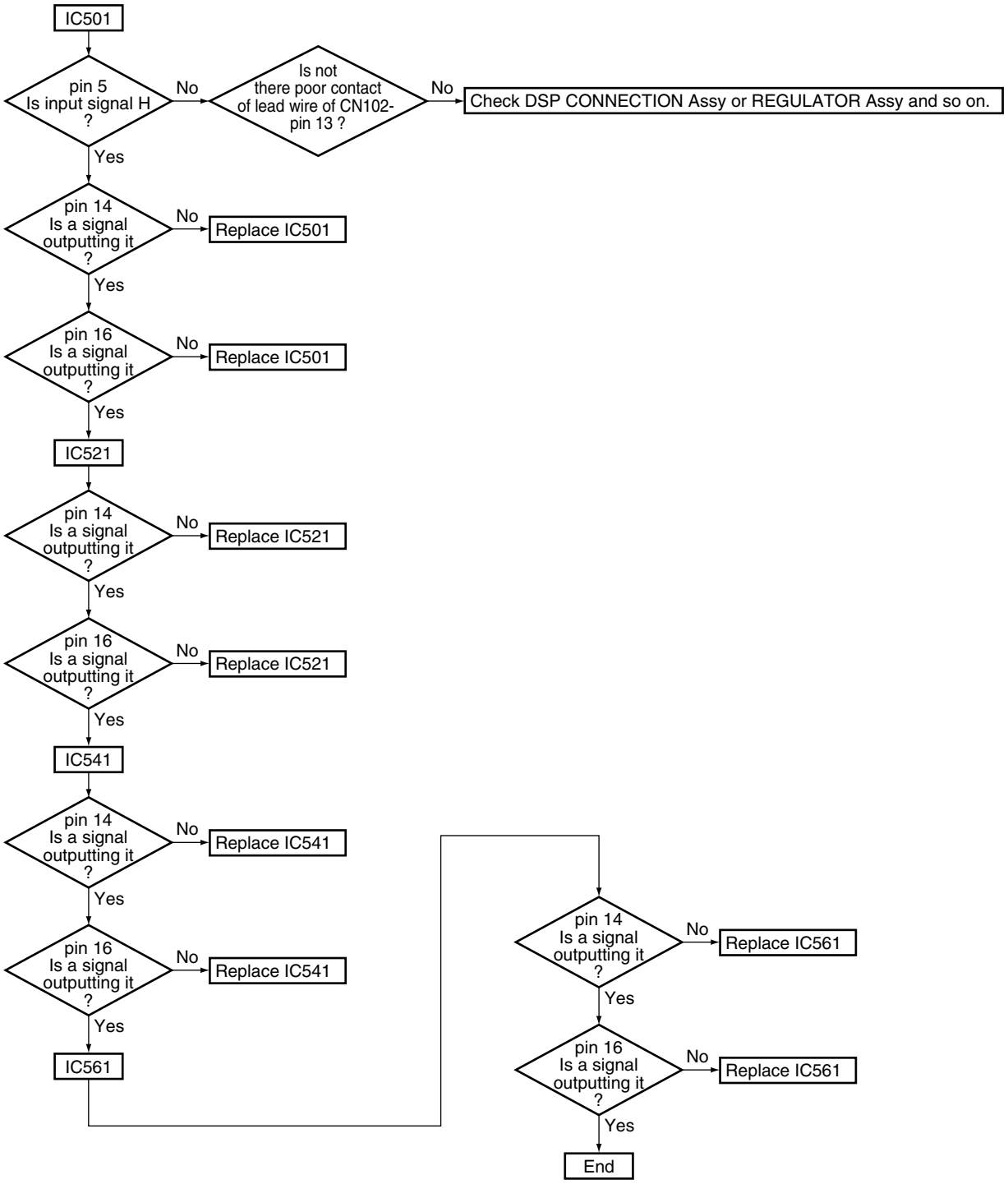
Step 7



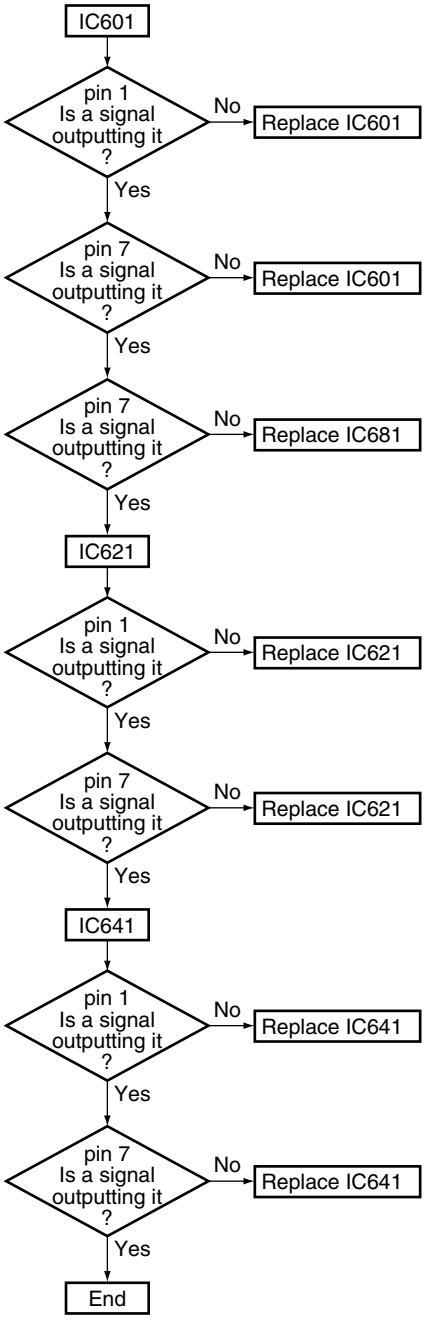
Step 8


IC503
pin 4
Is outputtingit ?
No
Replace IC503
Yes
End

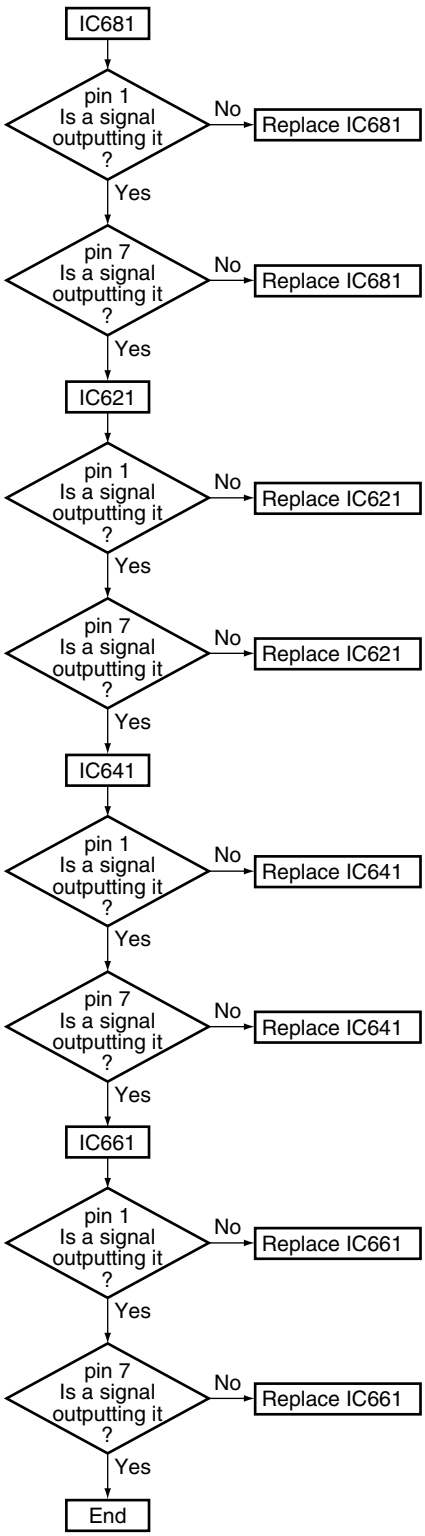
Step 9


IC501
pin 5
Is input signal H
?
No
Is not
there poor contact
of lead wire of CN102-
pin 13 ?
No
Check DSP CONNECTION Assy or REGULATOR Assy and so on.
Yes
pin 14
Is a signal
outputting it
?
No
Replace IC501
Yes
pin 16
Is a signal
outputting it
?
No
Replace IC501
Yes
IC521
pin 14
Is a signal
outputting it
?
No
Replace IC521
Yes
pin 16
Is a signal
outputting it
?
No
Replace IC521
Yes
IC541
pin 14
Is a signal
outputting it
?
No
Replace IC541
Yes
pin 16
Is a signal
outputting it
?
No
Replace IC541
Yes
IC561
pin 14
Is a signal
outputting it
?
No
Replace IC561
Yes
pin 16
Is a signal
outputting it
?
No
Replace IC561
Yes
End

Step 10



Step 11



7.1.4 OUTLINE OF THE 1394 UNIT

●Operational Outline of the IEEE 1394 Unit

This unit supports the A&M protocol (Audio and Music Data transmission Protocol), which, among the IEEE 1394 audio and video protocols, is employed for audio equipment and electronic musical instruments, etc. As the unit does not support the MPEG2-TS protocol (for BS digital tuners and D-VHS) or the DV protocol (for digital video cameras and Pioneer's DVR) among IEEE 1394 audio and video protocols, it does not support video data transmission.

The main commands supported by this unit are: For sending, the PLAY command to a player, and for receiving, the commands for switching functions, increasing/decreasing the volume, muting on/off, and stream information (for inquiring about the receiving capabilities of the receiver).

Audio data (media) that can be received by the unit are as follows:
- DVD-A (2 channels, multiple channels)
- SACD (2 channels, multiple channels)
- IEC 60958 (DVD-V, DVD-RW, CD, VCD, MP3, DTS-CD, etc.)

The received data are demodulated separately for the above three signal formats in the IEEE 1394 receiving IC, output to another IC for jitterless transmission, then output to a third IC for DIR or to the DSP of the main unit.

As to SACD data, DSD streams are converted to multibit data at the SACD/PCM converting IC, and this enables SACD data processing at the DSP of the main unit. But DSD streams are inputted directly into the DAC bypassing the DSP at SACD DIRECT mode.
In jitterless transmission, audio data with jitter generated during IEEE 1394 transmission (actually, jitter contained in sync signals that cannot be reduced by the PLL for audio receiving) are cached in the buffer RAM in the receiver up to a certain amount, and then read out by a highly accurate crystal-oscillation clock in the receiver, which enables reduction of jitter. The receiver controls the amount of cached data in the buffer RAM such that a certain amount of data is always cached. If the amount of cached data falls below the specified level, a request is sent to increase the playback speed (transmission volume per unit hour) (+1%). If the amount of cached data exceeds the specified level, a request is sent to decrease the playback speed (-1%). Thus, data transmitted in jitterless transmission are delayed by about 0.7 sec behind the time indicated on the FL of the transmitting device, compared with data transmitted in normal transmission. Moreover, as mentioned above, because the sending device switches the system clock according to the request of the receiving device, sync of the video signal may be unlocked, and the audio signal would be delayed behind a video signal because of its being cached. So many sending devices do not adopt jitterless transmission for content having both audio and video signals.

Both the sending and receiving devices must support jitterless transmission to enable this type of transmission. Start of jitterless transmission is requested by the receiving device; however, depending on the status of the sending device (type of media, etc.), jitterless transmission may not be possible. Media for which jitterless transmission is supported and those for which it is not (only normal transmission is supported) are shown below:
- Jitterless transmission : DVD-A, SACD, CD, DTS-CD
- Normal transmission only : DVD-V, DVD-RW, VCD, MP3

Depending on the specifications of the sending device, it may not support jitterless transmission, even for those media for which it can be supported.
As to copyright protection, IEEE 1394 employs the DTCP (Digital Transmission Content Protection) system, which consists of the following:
1. Copy-control information
2. Authentication and key exchange
3. Encryption
4. System renewability

The procedures for copy protection are basically as follows: After authentication and key exchange for encryption/decryption, the sending device will send the data encrypted using the keys. The receiving device in turn will decipher the data using the exchanged keys.
- Media whose data can be encrypted: DVD-V, DVD-A, SACD, DVD-RW
- Media whose data cannot be encrypted: CD, DTS-CD, VCD, MP3

● IEEE 1394 Error Indications

No.	Message	Error Code	Cause and Actions to be taken	Remarks
1	WRITING CONFIG	E7	The Config ROM data are being written to flash memory. Do NOT turn off the power while this message is displayed. While this message is displayed, the Standby button on the main unit is disabled.	This message is displayed when a unit whose host board was replaced with a new one is turned on for the first time.
2	MODEL ID ERROR	CO	The MODEL ID stored in flash memory on the host board and that stored in the main unit do not match. Download the GUID again.	This error is generated when a host board for the wrong destination is mounted in the unit, and it will only be generated during servicing. The message will remain displayed until the error is corrected.
3	CONFIG ERROR	C1	The Config ROM data are erroneous. Download the GUID again.	This message is displayed when the power is turned off while the Config ROM data are being written. As this is generated while the unit is operated online, this error will only be generated during servicing. The message will remain displayed until the error is corrected.

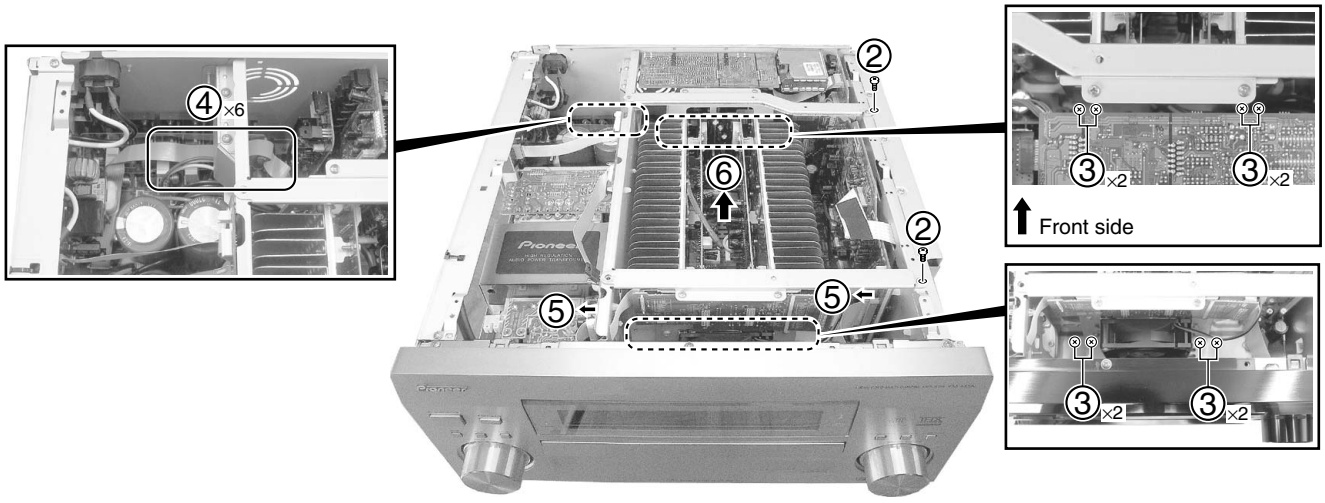
Note: If downloading of the GUID cannot be performed for corrective measures for messages 1 and 2, replace the host board with a new one.

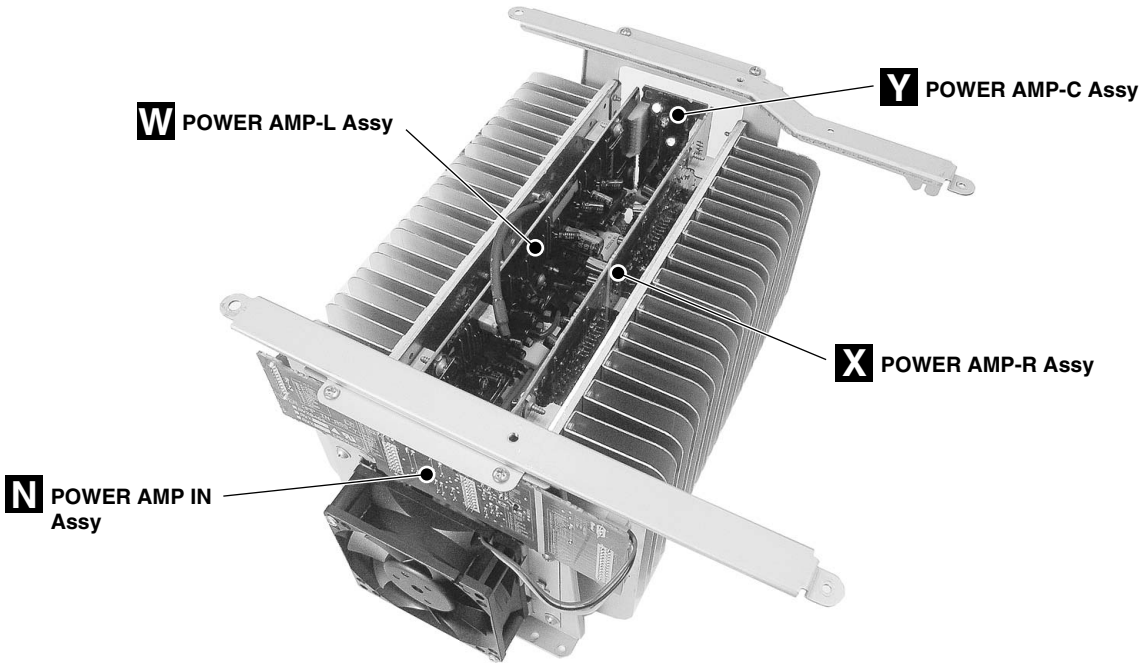
7.1.5 DISASSEMBLY

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

1 Bonnet Case 56S and Heatsink Section

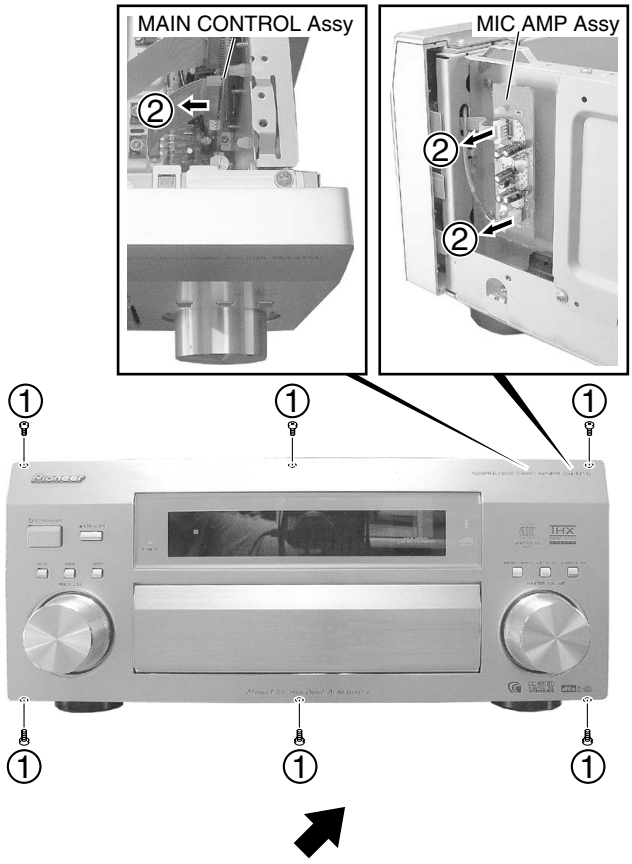
① Remove the bonnet case 56S by removing the 23 screws.
② Remove the two screws.
③ Remove the eight screws.
④ Disconnect the six connectors.
⑤ Disconnect the one flexible cable and the one connector.
⑥ Remove the heatsink section.



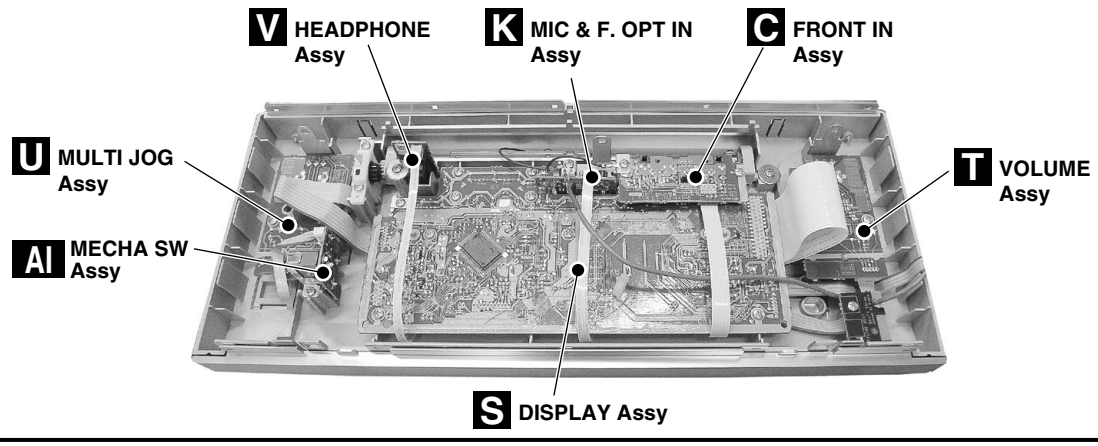


2 Front Panel Section

① Remove the six screws.
② Disconnect the one flexible cable and the two connectors.
③ Remove the four screws.
④ Unhook the two hooks.
⑤ Remove the front panel section.
⑥ Disconnect the one flexible cable.

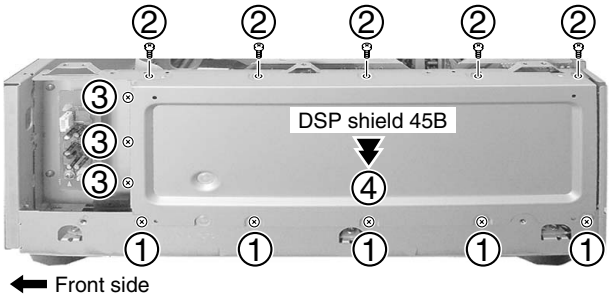


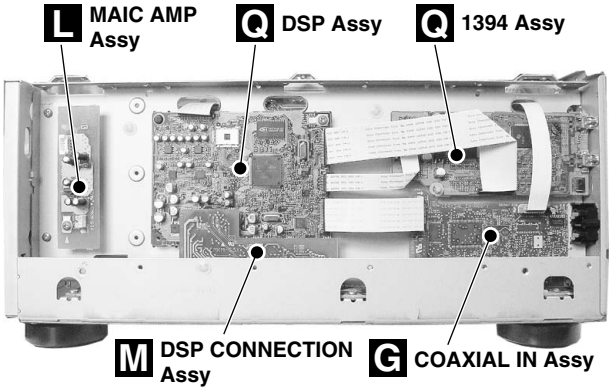
• Top view



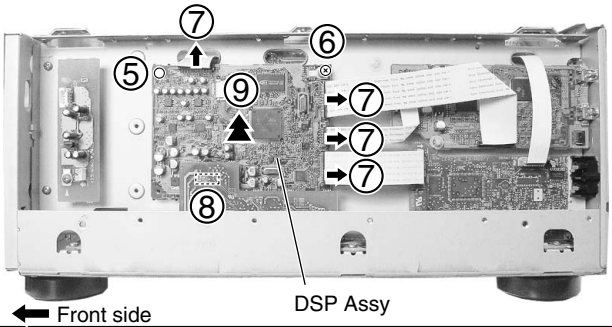
3 DSP Section

① Remove the five screws.
② Remove the five screws.
③ Remove the three screws.
④ Remove the DSP shield 45B.



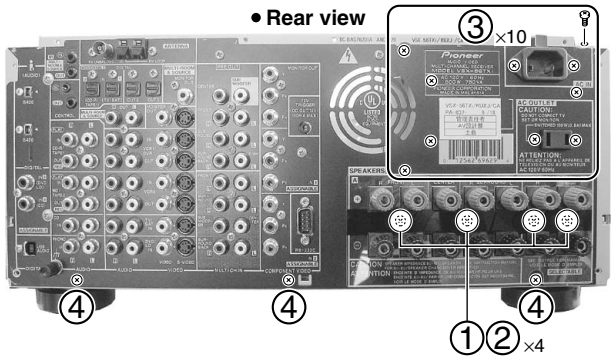


⑤ Remove the one nyron rivet.
⑥ Remove the one screw.
⑦ Disconnect the four flexible cables.
⑧ Disconnect the one connector.
⑨ Remove the DSP Assy.

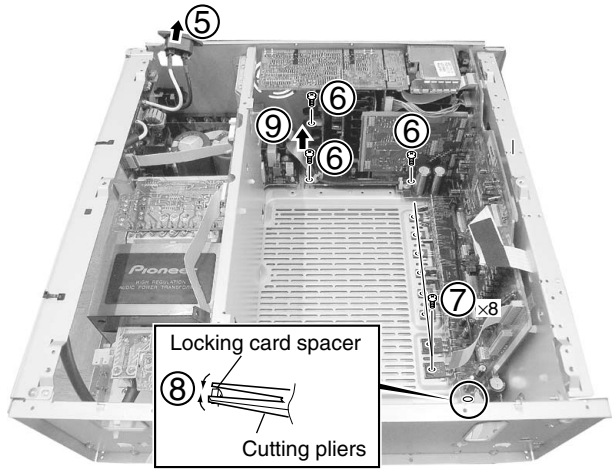


4 Rear Panel and Main Sections

① Remove the four cushion circle 16B.
② Remove the four screws.
③ Remove the ten screws.
④ Remove the three screws.



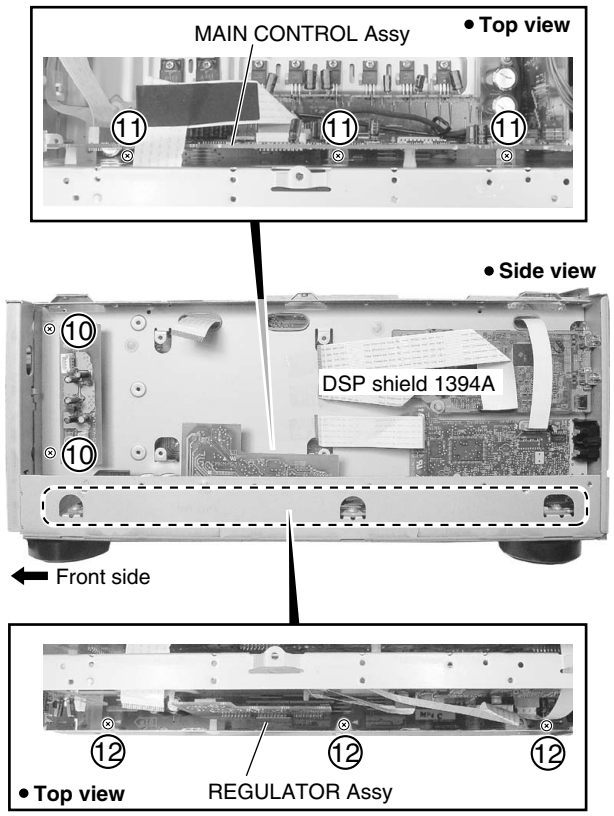
⑤ Remove the AC IN socket.
⑥ Remove the three screws.
⑦ Remove the eight screws.
⑧ Remove the locking card spacer.
⑨ Disconnect the one connector.



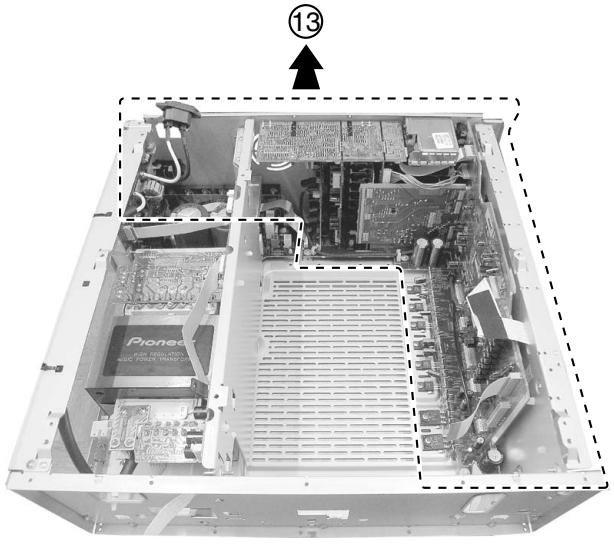
⑩ Remove the two screws.

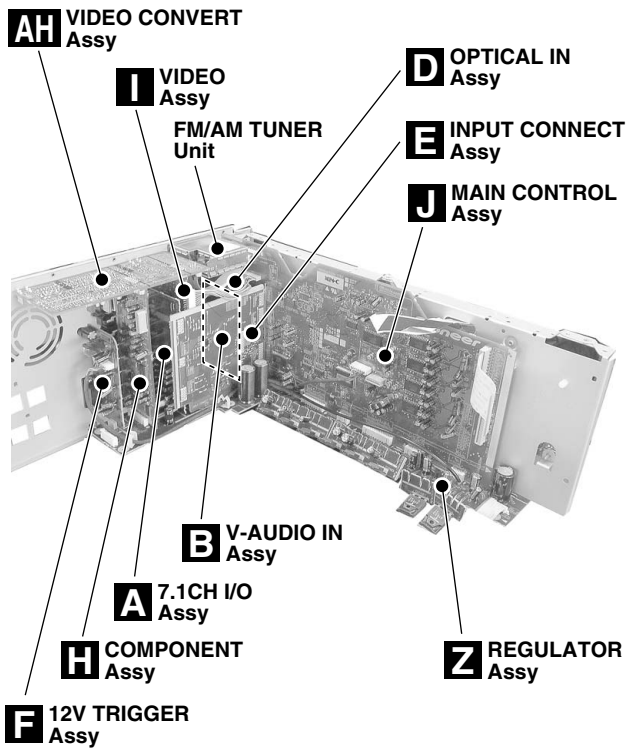
⑪ Remove the three screws.

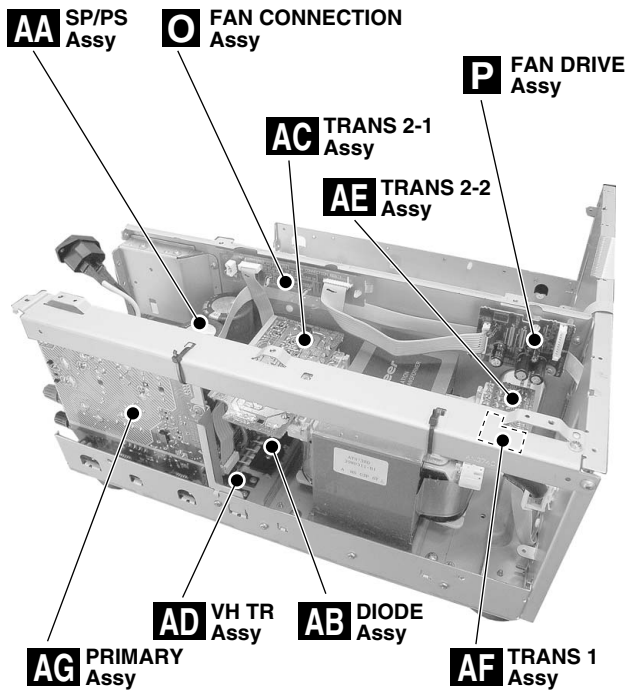
⑫ Remove the three screws.



⑬ Remove the rear panel section with the main section.







How to Diagnose the Unit with the Heatsink Section Removed

With the following method, the Assys that cannot be diagnosed while the unit is powered because the Heatsink Section obstructs access to them can be diagnosed.

Notes:

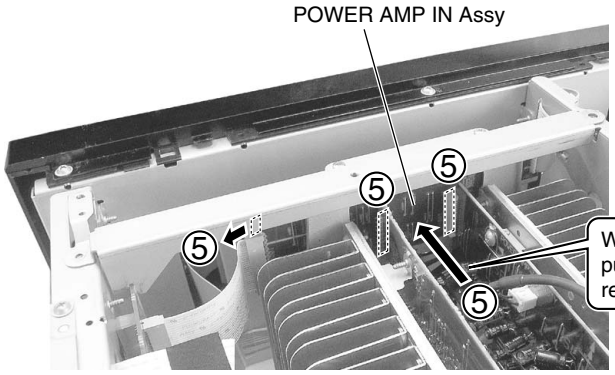
1. This method is merely an expedient way of diagnosing sections that are difficult to access, such as the MAIN CONTROL Assy and REGULATOR Assy. Diagnoses involving the Power Amplifier section, such as DC detection, are not possible with this method, nor are diagnoses regarding temperature detection.
2. After diagnosis is finished, discharge the electrolytic capacitor using a resistor, not by short-circuiting it.

Procedures

① Remove the bonnet case 56B by removing the 23 screws.
② Remove the two screws that secure Bridge Frames 45F and 45R.
③ Disconnect the six connectors connected between the Heatsink Section and the SP/PS Assy.
④ Disconnect the eight screws that secure the Heatsink Section.

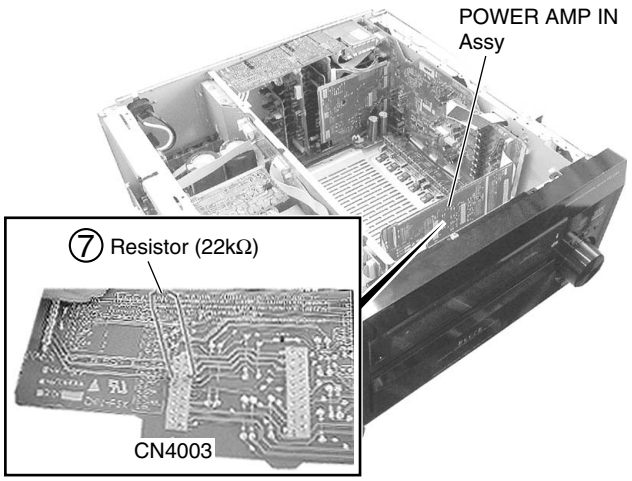
See Step 1.

⑤ Disconnect the three connectors of the POWER AMP IN Assy. In this case, you can easily remove the Assy once the flexible cable connecting the POWER AMP IN Assy and the MAIN CONTROL Assy has been disconnected.



When removing the POWER AMP IN Assy, pull out the Assy while pushing on the board at the center from the rear, for easier removal with less stress on the connector.

⑥ Remove the Heatsink Section, leaving the POWER AMP IN Assy intact.
⑦ Jump with a 22kΩ resistor between Pins 10 and 11 of CN4003 on the POWER AMP IN Assy.
⑧ Turn on the power. The power will then be on without the protection circuits activated.



Diagnosis

⚠ **After finishing diagnosis, perform the following before returning the Heatsink Section to its original position:**

① Remove the resistor used in Step ⑦.
② Discharge the electrolytic capacitors on the VH line shown below. If you do not, the resistors may be damaged by a surge of current.

Electrolytic capacitors to be discharged:
TRANS 2-1 Assy: C2207, C2208, C2211
FAN DRIVE Assy: C4055, C4056

③ Return the Heatsink Section to its original position.

7.2 PARTS

7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

● **List of IC**

PD8112A, PEG040B8, PEG041B, BU4094BCF, PCM2902EG, TSB43CA42, SM5819AF, TA1270BF, TC90A49F

■ PD8112A (1394 ASSY: IC301)

• Flow Control IC

● **Pin Function**

No.	Pin Name	I/O	Pin Function
1	VDDOUT	–	Digital VDD (3.3V)
2	SPDIFOUT	O	IEC60958 output
3	SDATA3O	O	MBLA data output (5 ch, 6 ch) (at flow: I2S)
4	SDATA2O	O	MBLA data output (3 ch, 4 ch) (at flow: I2S)
5	SDATA1O	O	MBLA data output (1 ch, 2 ch) (at flow: I2S)
6	SDATA0O	O	MBLA ancillary data output (at flow: I2S)
7	LRCKOUT	O	MBLA LRCK output
8	BCKOUT	O	MBLA BCK output (64fs)
9	AMCLKOUT	O	Master clock output (When AMCLKEN output is LOW, active Hi-Z.)
10	AMCLKEN	O	When 60958 is selected or OUTPUTEN=L output, active LOW. For external clock control
11	SDERRO	O	Data error flag output
12	VSSOUT	–	Digital GND
13	VDDOUT	–	Digital VDD (3.3V)
14	SDMUTEO	O	Data mute flag output MUTE: H
15	SAPCMBCKIN	I	BCK input when converting SACD to MLPCM
16	SAPCMLRCKIN	I	LRCK input when converting SACD to MLPCM
17	SAPCMD3IN	I	DATA3 input when converting SACD to MLPCM
18	SAPCMD2IN	I	DATA2 input when converting SACD to MLPCM
19	SAPCMD1IN	I	DATA1 input when converting SACD to MLPCM
20	SACDMKO	O	SACD master clock output (2.8224MHz)
21	SACDDAO	O	SACD ancillary data output
22	SACDD0O	O	SACD data output (L)
23	SACDD1O	O	SACD data output (R)
24	SACDD2O	O	SACD data output (C)
25	SACDD3O	O	SACD data output (Lfe)
26	VSSCORE	–	Digital GND (for inside)
27	VDDCORE	–	Digital VDD (3.3V, for inside)
28	SACDD4O	O	SACD data output (Ls)
29	SACDD5O	O	SACD data output (Rs)
30	SACDFRO	O	SACD frame data output (75Hz)
31	TESTMODE0	I	LSI test mode input Normally, "L" fixed
32	TESTMODE1	I	LSI test mode input Normally, "L" fixed
33	PLLMODE	I	VCOCLK division ratio selection Normally, "L"
34	SAPCMMODE	I	0: normal, 1: When the data type is SACD, output SAPCM*** input to MLPCM.
35	XVALMODE	I	0: 64M•128M bit SDRAM, 1: 256M bit SDRAM
36	RJMSBF	I	MLPCM output format setting at flow 0: I2S, 1: Right aligned MSB first
37	SEL512	I	Master clock selection at flow 0: 768fs, 1: 512fs
38	CONT48	O	Output for controlling the oscillator (When FMODE="1" and SEL44K="1", active High)
39	CLK48K	I	Master clock input of fs48kHz (36.864MHz or 24.576MHz)
40	CLK48KI	I	Crystal resonator input of fs48kHz (24.576MHz)
41	CLK48KO	O	Crystal resonator output of fs48kHz (24.576MHz)
42	VSSOUT	–	Digital GND
43	VDDOUT	–	Digital VDD (3.3V)
44	CONT44	O	Output for controlling the oscillator (When FMODE="1" and SEL44K="0", active High)
45	CLK44K	I	Master clock input of fs44.1kHz (33.8688MHz or 22.5792MHz)
46	CLK44KI	I	Crystal resonator input of fs44.1kHz (22.5792MHz)
47	CLK44KO	O	Crystal resonator output of fs44.1kHz (22.5792MHz)
48	SELOSC	I	L: CLK4XK input selection, H: crystal resonator I/O selection As for the crystal resonator, less than 30MHz are insured.

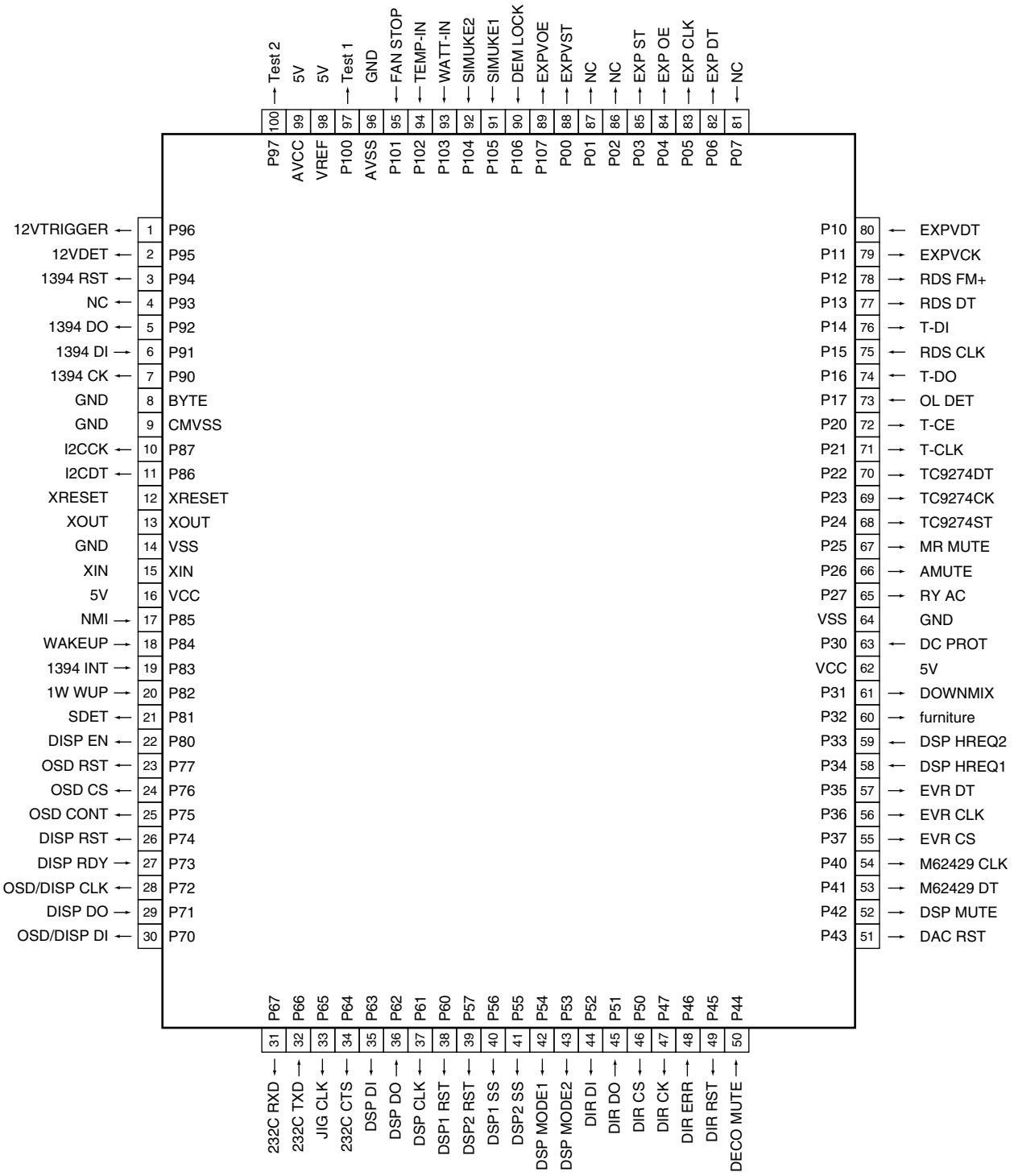
No.	Pin Name	I/O	Function
49	XRESET	I	Logic reset input Reset for L
50	OUTPUTEN	I	Pin for controlling the audio system output H: output, L: Hi-Z
51	FMODE	I	Flow mode control input at flow: H, at through: L
52	SELDTYPE0	I	Data type input 0 00: IEC60958, 01: MBLA
53	SELDTYPE1	I	Data type input 1 1X: SACD
54	SEL44K	I	Selecting signal of master clock input at flow L: CLK48K, H: CLK44K
55	FSSEL0	I	fs setting input 0 00: 44.1/48kHz, 01: 88.2/96kHz
56	FSSEL1	I	fs setting input 1 10: 176.4/192kHz, 11: 29.4/32kHz
57	VSSOUT	–	Digital GND
58	VDDOUT	–	Digital VDD (3.3V)
59	RXSTART	I	Trigger signal input of flow receiving start
60	SACDCHSEL	I	In a through mode, set to 1 in SACD 5 channel receiving. 0: 2ch•6 ch, 1: In 5ch flow receiving, a channel is distinguished automatically by ansillary data.
61	FMUTE	I	Forced mute control signal input Reflect to SDMUTEO.
62	FSTATE0	O	Status output 0 of memory in the flow
63	FSTATE1	O	Status output 1 of memory in the flow 00: Empty < 01: fast < 11: standard < 10: slow • full
64	FSTATE2	O	Status output 2 of flow receive data When received data type to be different from the set data type,active High.
65	TDI	I	Boundary Scan TAP pin
66	TDO	O	Boundary Scan TAP pin
67	TMS	I	Boundary Scan TAP pin
68	TCK	I	Boundary Scan TAP pin
69	TRST	I	Boundary Scan TAP pin
70	SACDMKIN	I	SACD bit clock input
71	SACDFRIN	I	SACD frame signal input
72	SACDD0IN	I	SACD data input 0 (ch1)
73	VSSCORE	–	Digital GND (for inside)
74	VDDCORE	–	Digital VDD (3.3V, for inside)
75	SACDD1IN	I	SACD data input 1 (ch2)
76	SACDD2IN	I	SACD data input 2 (ch3)
77	SACDD3IN	I	SACD data input 3 (ch4)
78	SACDD4IN	I	SACD data input 4 (ch5)
79	SACDD5IN	I	SACD data input 5 (ch6)
80	SACDDAIN	I	SACD ansillary data input
81	AMCLKIN	I	Master clock input (VCO) at through mode
82	SPDIFIN	I	IEC60958 input Data valid input at flow
83	SDMUTEIN	I	Mute flag input at through mode
84	SDERRIN	I	Data error flag input
85	VCOCLK2O	O	VCO clock output 2 (for 512fs)
86	VCOCLK1O	O	VCO clock output 1 (for 768fs)
87	REFSYT	I	PLL reference input (at passive filter)
88	DIVVCO	I	PLL VCO dividing input (at passive filter)
89	VCOEN	I	Built-in VCO control input Low: stop, High: oscillation
90	VSSCORE	–	Digital GND (for inside)
91	VDDCORE	–	Digital VDD (3.3V, for inside)
92	VSSOUT	–	Connect to analog GND
93	VSSPASS	–	Analog GND
94	VDDPASS	–	Analog VDD (3.3V)
95	LPOUT	O	Phase comparator output (analog)
96	LPIN	I	VCO control voltage input (analog)

No.	Pin Name	I/O	Function
97	VDDOUT	–	Connect to analog VDD (3.3V)
98	BCKIN	I	MBLA flow BCK input
99	LRCKIN	I	MBLA flow LRCK input
100	SDATA1IN	I	MBLA flow data input 1
101	SDATA2IN	I	MBLA flow data input 2
102	SDATA3IN	I	MBLA flow data input 3
103	SDATA0IN	I	MBLA flow data input 0
104	VSSOUT	–	Digital GND
105	VDDOUT	–	Digital VDD (3.3V)
106	SDA0	O	Address output for external SDRAM
107	SDA1	O	Address output for external SDRAM
108	SDA2	O	Address output for external SDRAM
109	SDA3	O	Address output for external SDRAM
110	SDA4	O	Address output for external SDRAM
111	SDA5	O	Address output for external SDRAM
112	SDA6	O	Address output for external SDRAM
113	SDA7	O	Address output for external SDRAM
114	SDA8	O	Address output for external SDRAM
115	SDA9	O	Address output for external SDRAM
116	SDA10	O	Address output for external SDRAM
117	SDA11	O	Address output for external SDRAM
118	SDA12	O	Address output for external SDRAM
119	SDA13	O	Address output for external SDRAM
120	SDD0	I/O	Data input/output for external SDRAM
121	SDD1	I/O	Data input/output for external SDRAM
122	SDD2	I/O	Data input/output for external SDRAM
123	SDD3	I/O	Data input/output for external SDRAM
124	SDD4	I/O	Data input/output for external SDRAM
125	SDD5	I/O	Data input/output for external SDRAM
126	SDD6	I/O	Data input/output for external SDRAM
127	SDD7	I/O	Data input/output for external SDRAM
128	VSSOUT	–	Digital GND
129	VDDOUT	–	Digital VDD (3.3V)
130	SDD8	I/O	Data input/output for external SDRAM
131	SDD9	I/O	Data input/output for external SDRAM
132	SDD10	I/O	Data input/output for external SDRAM
133	SDD11	I/O	Data input/output for external SDRAM
134	SDD12	I/O	Data input/output for external SDRAM
135	SDD13	I/O	Data input/output for external SDRAM
136	SDD14	I/O	Data input/output for external SDRAM
137	SDD15	I/O	Data input/output for external SDRAM
138	SDCKE	I/O	Data input/output for external SDRAM
139	SDCLK	O	Data input/output for external SDRAM
140	SDDQMU	O	Data input/output for external SDRAM
141	SDXRAS	O	XRAS output for external SDRAM
142	SDXCAS	O	XCAS output for external SDRAM
143	SDXWE	O	XWE output for external SDRAM
144	VSSOUT	–	Digital GND

■ PEG040B8 (MAIN CONTROL ASSY: IC501)

• Main Microcomputer

● Pin Assignment (Top view)



● Pin Function

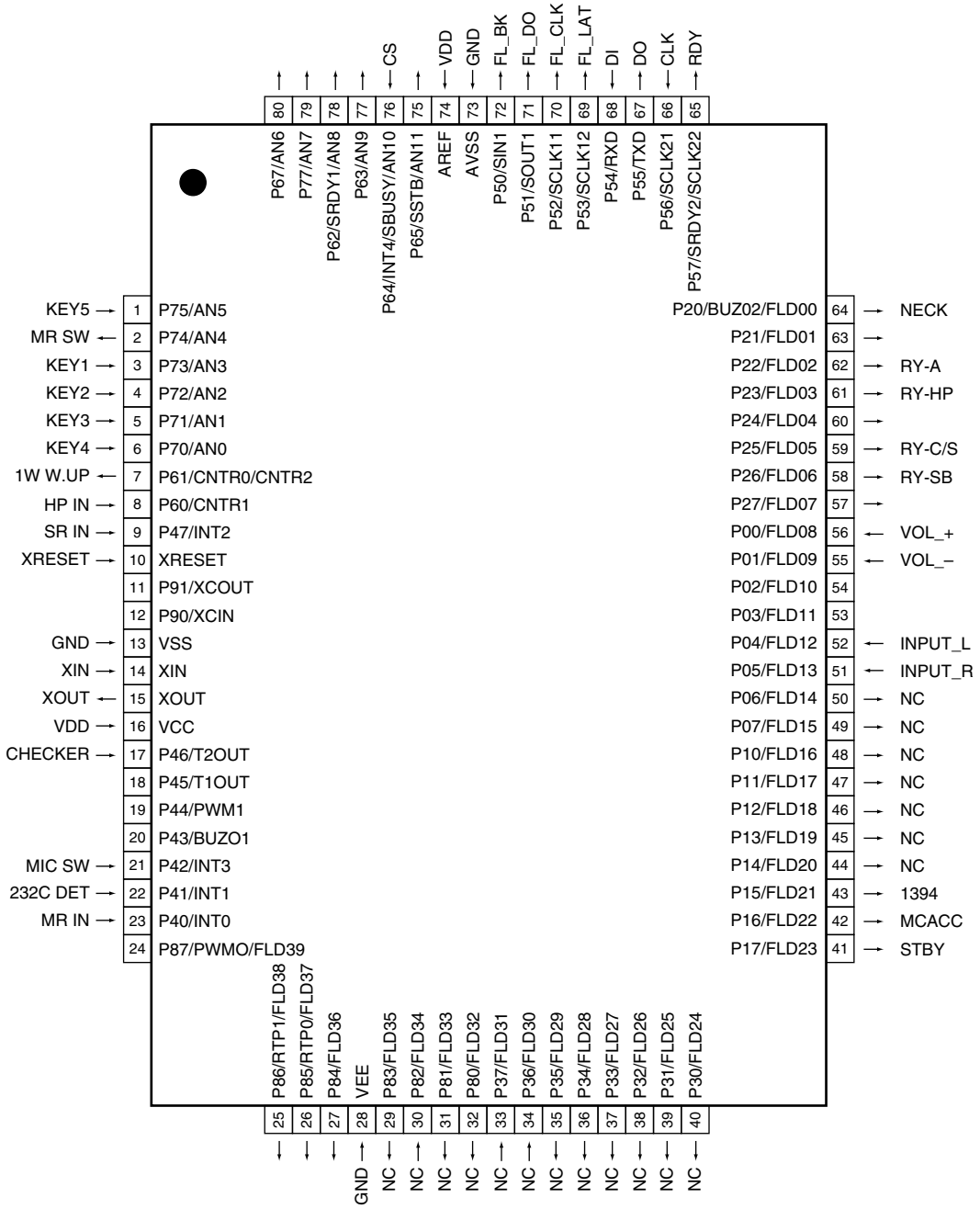
No.	Pin Name	I/O	Pin Function	Active
1	12VTRIGGER	O	12V TRIGGER control port , "H" at ON	
2	12VDET	I	12V TRIGGER monitoring port	
3	1394 RST	O	Reset for 1394	
4	1394 CS	O	Standby for 1394 (Not used) "L" fixed.	
5	1394 DO	O	DO for 1394	
6	1394 DI	I	DI for 1394	
7	1394 CK	O	CK for 1394	
8	GND	–	Ground	
9	CNVSS	–	5.1kΩ pulldown	
10	I2CCK	O	Communication clock signal for video-chroma synchro. IC/YC sep. IC	
11	I2CDT	O	Communication data-out signal for video-chroma synchro. IC/YC sep. IC	
12	XRESET	–	Reset	
13	XOUT	–	Oscillator	
14	GND	–	Ground	
15	XIN	–	Oscillator	
16	5V	–	5V power supply	
17	NMI	I	Cannot use it as usual input port (100kΩ pullup)	
18	WAKEUP	I	AC pulse In (Wake up)	H
19	1394 INT	I	INT for 1394	
20	1W WUP	I	Wakeup signal at standby (from the display microcomputer) (pulldown)	H
21	SDET	I	S signal detection	
22	DISP EN	O	Communication enabling signal to the display microcomputer	H
23	OSD RST	O	OSD-IC reset signal L: reset, H: release reset	
24	OSD CS	O	OSD-IC chip select signal	H
25	OSD CONT.	O	At data transfer to the OSD-IC: "H"	
26	DISP RST	O	Display microcomputer reset signal L: reset, H: release reset (pulldown)	
27	DISP RDY	I	Communication enabling signal from the display microcomputer	H
28	OSD/DISP CLK	O	Communication clock signal with the OSD-IC/display microcomputer	
29	DISP DO	I	Communication data in signal with the display microcomputer (N ch open drain)	
30	OSD/DISP DI	O	Communication data out signal with the OSD-IC/display microcomputer (N ch open drain: pullup)	
31	232C RXD	O	For 232C rewriting (data output)	
32	232C TXD	I	For 232C rewriting (data input)	
33	CLK	O	Not used	
34	232C CTS	O	For 232C rewriting (communication permission)	
35	DSP DI	O	Communication data out signal with the DSP1 microcomputer	
36	DSP DO	I	Communication data in signal with the DSP2 microcomputer	
37	DSP CLK	O	Communication clock signal with the DSP microcomputer	
38	DSP1 RST	O	DSP1 microcomputer reset signal L: reset, H: release reset	
39	DSP2 RST	O	DSP2 microcomputer reset signal L: reset, H: release reset	
40	DSP1 SS	O	Slave select signal to DSP1 microcomputer	L
41	DSP2 SS	O	Slave select signal to DSP2 microcomputer	L
42	DSP MODE1	O	Mode selection of DSP1 microcomputer (ROM/RAM) H: ROM mode, L: RAM (PPP) mode	H
43	DSP MODE2	O	Mode selection of DSP2 microcomputer (ROM/RAM) H: ROM mode, L: RAM (PPP) mode	H
44	DIR DI	O	Communication data out signal with the DIR	
45	DIR DO	I	Communication data in signal with the DIR/DAC	
46	DIR CS	O	Communication chip select signal with the DIR/DAC	
47	DIR CK	O	Communication clock signal with the DIR/DAC	
48	DIR ERR	I	Lock/Unlock signal	
49	DIR RST	O	DIR reset signal	
50	DECO MUTE	I	Boot success detecting port of 1st DSP	

No.	Pin Name	I/O	Pin Function	Active
51	DAC RST	O	DAC/AD reset	
52	DSP MUTE	O	DSP Assy mute	H
53	M62429 DT	O	Data signal for multi room volume IC control	
54	M62429 CLK	O	Clock signal for multi room volume IC control	
55	EVR CS	O	Chip select signal for erectronic volume	
56	EVR CLK	O	Clock signal for erectronic volume	
57	EVR DT	O	Data signal for erectronic volume	
58	DSP HREQ1	I	Error detection signal of DSP1 microcomputer	
59	DSP HREQ2	I	Error detection signal of DSP2 microcomputer	
60	furniture	O	Furniture control signal	
61	DOWNMIX	O	DSD analog down mix control signal	
62	5V	–	5V power supply	
63	DC PROT	I	DC detection L: Detection	L
64	GND	–	Ground	
65	RC-AC	O	AC relay ON/OFF	H
66	AMUTE	O	System mute L: Mute ON	L
67	MRMUTE	O	Multi room mute L: Mute ON	L
68	tc9274f-st	O	Function SW control (Strobe)	
69	tc9274f-ck	O	Function SW control (Clock)	
70	tc9274f-dt	O	Function SW control (Data)	
71	TUNER CLK	O	Clock signal of tuner control	
72	TUNER CE	O	Chip select signal of tuner control	
73	OL DET	I	Amp. overload detection L: Detection	L
74	TUNER DO	I	Data input signal of tuner control (pullup)	
75	RDS CLK	O	RDS module clock in signal	
76	TUNER DI	O	Data output signal of tuner control	
77	RDS DT	O	RDS module data in signal	
78	RDS FM+	O	RDS decoder power on/off	
79	EXPVCK	O	Control clock signal for VC extension IC	
80	EXPVDT	O	Control data signal for VC extension IC	
81	UARTSW	O	Not used, L" fixed	
82	EXP DT	O	Data signal of expansion IC control	
83	EXP CLK	O	Clock signal of expansion IC control	
84	EXP OE	O	Output enable signal of expansion IC control	
85	EXP ST	O	Chip clock signal of expansion IC control	
86	–	O	NC	
87	–	O	NC	
88	EXPVST	O	Control chip clock signal for VC extension IC	
89	EXPVOE	O	Control output enable signal for VC extension IC	
90	DEM LOCK	I	Not used	
91	SIMUKE1	I	Destination read 1	
92	SIMUKE2	I	Destination read 2	
93	WATT-IN	I	Wattage detection Level detection with A/D	A/D
94	TEMP-IN	I	Temperature detection Level detection with A/D	A/D
95	FAN STOP	I	Fan forced stop detection	H
96	AVSS	–	Connect to VSS	
97	TEST1	O	Test terminal	
98	VREF	–	Connect to VCC	
99	AVCC	–	Connect to VCC	
100	TEST2	O	Test terminal	

■ PEG041B (DISPLAY ASSY: IC3000)

• Display Microcomputer

● Pin Assignment (Top view)



● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	KEY5	I	KEY AD input	41	STANDBY	O	Standby LED
2	MR SW	O	Multi room input Pioneer/others L: Pioneer	42	MCACC	O	MCACC LED
3	KEY1	I	KEY AD input	43	1394	O	1394 LED
4	KEY2			44	NC	O	Non connection
5	KEY3			45	NC		
6	KEY4			46	NC		
7	1W WUP	O	1W correspondence main wakeup	47	NC		
8	HP	I	Headphone detection (active: H)	48	NC		
9	SR IN	I	Remote control input of main room	49	NC		
10	RESET	–	Reset input from the main microcomputer	50	NC		
11	NC	O	Non connection	51	INPUT_R	I	Input selector RIGHT
12	NC			52	INPUT_L	I	Input selector LEFT
13	Vss	–	Ground	53	NC	O	Non connection
14	XIN	–	Oscillator	54	NC	O	Non connection
15	XOUT	–	Oscillator	55	VOL_–	I	Volume – direction
16	Vcc	–	Power supply 5V	56	VOL_+	I	Volume + direction
17	CHECKER	I	Checker mode detection (10kΩ pulldown)	57	NC	O	Non connection
18	NC	O	Non connection	58	RY-SB	O	Surround back/SP-B relay ON/OFF (active: H)
19	NC			59	RY-C/S	O	C/S relay ON/OFF (active: H)
20	NC			60	NC	O	Non connection
21	MIC SW	I	MIC detection	61	RY-HP	O	Headphone relay ON/OFF (active: H)
22	232C DET	I	232C signal input detection	62	RY-A	O	Speaker A relay ON/OFF (active: H)
23	MR IN	I	Remote control input of sub room (active: H)	63	NC	O	Non connection
24	NC	O	Non connection	64	NECK	O	6/8Ω switch L: 6Ω, H: 8Ω, Initial: 8Ω
25	NC	O	Non connection	65	RDY	O	Communication ready with main UCOM
26	NC			66	CLK	O	Communication clock with main UCOM
27	NC			67	DO	O	Communication data out with main UCOM
28	VEE	–	Ground	68	DI	I	Communication data in with main UCOM
29	NC	O	Non connection	69	FL_LAT	O	FL DRV LAT
30	NC			70	FL_CLK	O	FL DRV CLK
31	NC			71	FL_DO	O	FL DRV DATA
32	NC			72	FL_BK	O	FL DRV BK
33	NC			73	AVSS	–	Ground
34	NC			74	VREF	–	5V reference voltage
35	NC			75	NC	O	Non connection
36	NC			76	CS	I	Communication CS with main UCOM
37	NC			77	NC	O	Non connection
38	NC			78	NC		
39	NC			79	NC		
40	NC			80	NC		

■ BU4094BCF (MAIN CONTROL ASSY: IC502)

• Expansion IC

● Pin Function

No.	Pin Name	Pin Function	Active
1	DEM_STP	Demodulator oscillation OFF/ON	H
2	DEM_RST	Demodulator reset L: RESET	L
3	MRH	TC9215C12(Pin 5) control	H
4	NC	Not used	
5	NJM2596_SW5	NJM2596 video control of main system	H
6	NJM2596_SW4		H
7	NJM2596_SW3		H
8	NJM2596_SW2		

■ BU4094BCF (MAIN CONTROL ASSY: IC503)

• Expansion IC

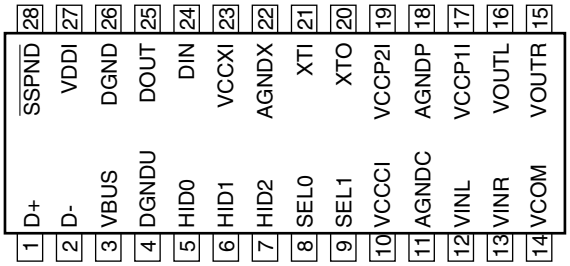
● Pin Function

No.	Pin Name	Pin Function	Active
1	OSD ON	ON at OSD on	H
2	TC9215_C34	Switch the DSP/DIRECT/MULTI CH IN of surround signal H: Multi ch input path	
3	PHONO GAIN	"H" at PHONO equalizer ON	H
4	DSDM	DSD DIRECT control	H
5	MUTE	"H" at Power ON processing and muting	H
6	FUNC	COMPONENT D4 Input selection (2 Input to 1 Output)	
7	FAN DRIVE	ON when rotates the FAN	H
8	LOFAN	Not used, "H" fixed	

■ PCM2902EG (COAXIAL IN ASSY: IC1681)

• USB Codec IC

● Pin Assignment (Top view)

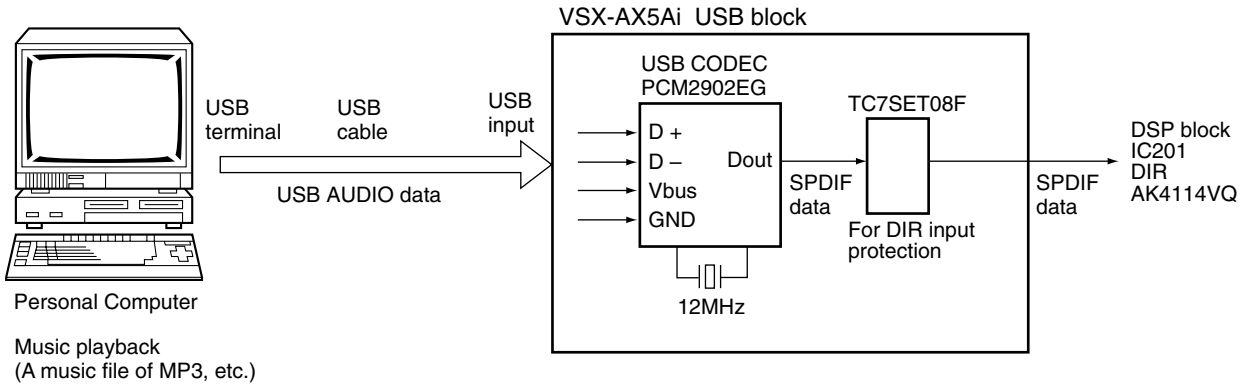


● Pin Function

No.	Pin Name	I/O	Pin Function
1	D+	I/O	USB differential input/output plus(1)
2	D–	I/O	USB differential input/output minus(1)
3	VBUS	I	Connect to USB power (VBUS)
4	DGNDU	–	Digital ground for USB transceiver
5	HID0	I	HID key state input (mute), active high(3)
6	HID1	I	HID key state input (volume up), active high(3)
7	HID2	I	HID key state input (volume down), active high(3)
8	SEL0	I	Must be set to high(6)
9	SEL1	I	Must be set to high(6)
10	VCCCI	–	Internal analog power supply for codec(4)
11	AGNDC	–	Analog ground for codec
12	VINL	I	ADC analog input for L-channel
13	VINR	I	ADC analog input for R-channel
14	VCOM	–	Common for ADC/DAC (VCCCI/2) (4)
15	VOUTR	O	DAC Analog output for R-channel
16	VOUTL	O	DAC analog output for L-channel
17	VCCP1I	–	Internal analog power supply for PLL(4)
18	AGNDP	–	Analog ground for PLL
19	VCCP2I	–	Internal analog power supply for PLL(4)
20	XTO	O	Crystal oscillator output
21	XTI	I	Crystal oscillator input(2)
22	AGNDX	–	Analog ground for oscillator
23	VCCXI	–	Internal analog power supply for oscillator(4)
24	DIN	I	S/PDIF input(5)
25	DOUT	O	S/PDIF output
26	DGND	–	Digital ground
27	VDDI	–	Internal digital power supply(4)
28	$\overline{\text{SSPND}}$	O	Suspend flag, active low (Low: suspend, High: operational)

(1) LV-TTL level
(2) 3.3-V CMOS level input
(3) 3.3-V CMOS level input with internal pulldown. This pin informs the PC of serviceable control signals such as mute, volume up, or volume down, which has no connection with the internal DAC or ADC directly. See the volume control and mute control section.
(4) Connect a decouple capacitor to GND
(5) 3.3-V CMOS level input with internal pulldown, 5 V tolerant
(6) TTL Schmitt trigger, 5 V tolerant

● Flow of USB Input Data



About PCM2902EG

- With codec of USB BUS POWERED, power is supplied from Vbus of USB, and work. (work with a power supply of VSX-AX5Ai irrelatively.)
- Be USB codec, but analog I/O and digital (SPDIF) input are not using in VSX-AX5Ai.
- When only connects to PC and receiver (VSX-AX5Ai) is turned on, the output of TC7SET08F outputs.

● Help of Non-failure Decision

Symptom when a sound is not output (Symptom is different by each OS)

- Confirm a driver whether PC is recognizing it. (With a device manager).
- Is a switch of sound sourse performed properly? (Control Panel, Sound or Multimedia)
- Is volume control of PC adjusted?
- How is other PC?
- In the state that does not change PC setting, is sound output in other VSX-AX5Ai?
- When uses CD-ROM and playback a music CD, and a sound is not output, is digital playback of CD-ROM checked?

When contain noise

- There is a bug in early USB AUDIO driver of WINDOWS XP, and contain noise once for several minutes. (Correspond with WINDOWS UPDATE.)
- An affinity problem with chip set
- Adaptation problem with chip set (refer to next item)
- Performance issue of PC. (Release resident software as measures.)
- Noise when using the other software during music playback. (Do not guarantee or do not use the other software)
- Do contain the same noise even if changes the PC?

Reference

Confirmation item of the USB part with Function checker.
Supply a power supply (+5V: pin 3, GND: pin 4) of IC1681 (PCM2902EG), and connect D+ (pin1) to GND.
Confirm that X1681 (ASS7047) starts oscillating.

Support OS

Windows	98 / 98SE / ME
Windows	2000 Professional
Windows	XP Home / Professional

● Adaptation Problem with Chip Set

PCM2902EG caution of operation

Operating environment and findings of PCM2902EG

Evaluation PC: Libretto PAL2060 TNML made by Toshiba

(1) CPU: Crusoe 600MHz made by Transmeta
Use chip set: Transmeta N/B (North Bridge)
M1533 (South Bridge) made by ALi
OS: Windows ME

(2) CPU: Cerelon 566MHz made by Intel
Use chip set: Aladdin Pro 5 (North Bridge) and M1533 (South Bridge) made by ALi
OS: Windows ME

(3) CPU: K6-2 400MHz made by AMD
Use chip set: Aladdin 5 (North Bridge) and M1543 (South Bridge) made by ALi
OS: Windows ME

When contain noise by a problem of the chip set side, there is a problem in the PC side because even other USB audio equipment contains noise.

Therefore, do not recommend use in the condition and environment as mentioned above.

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

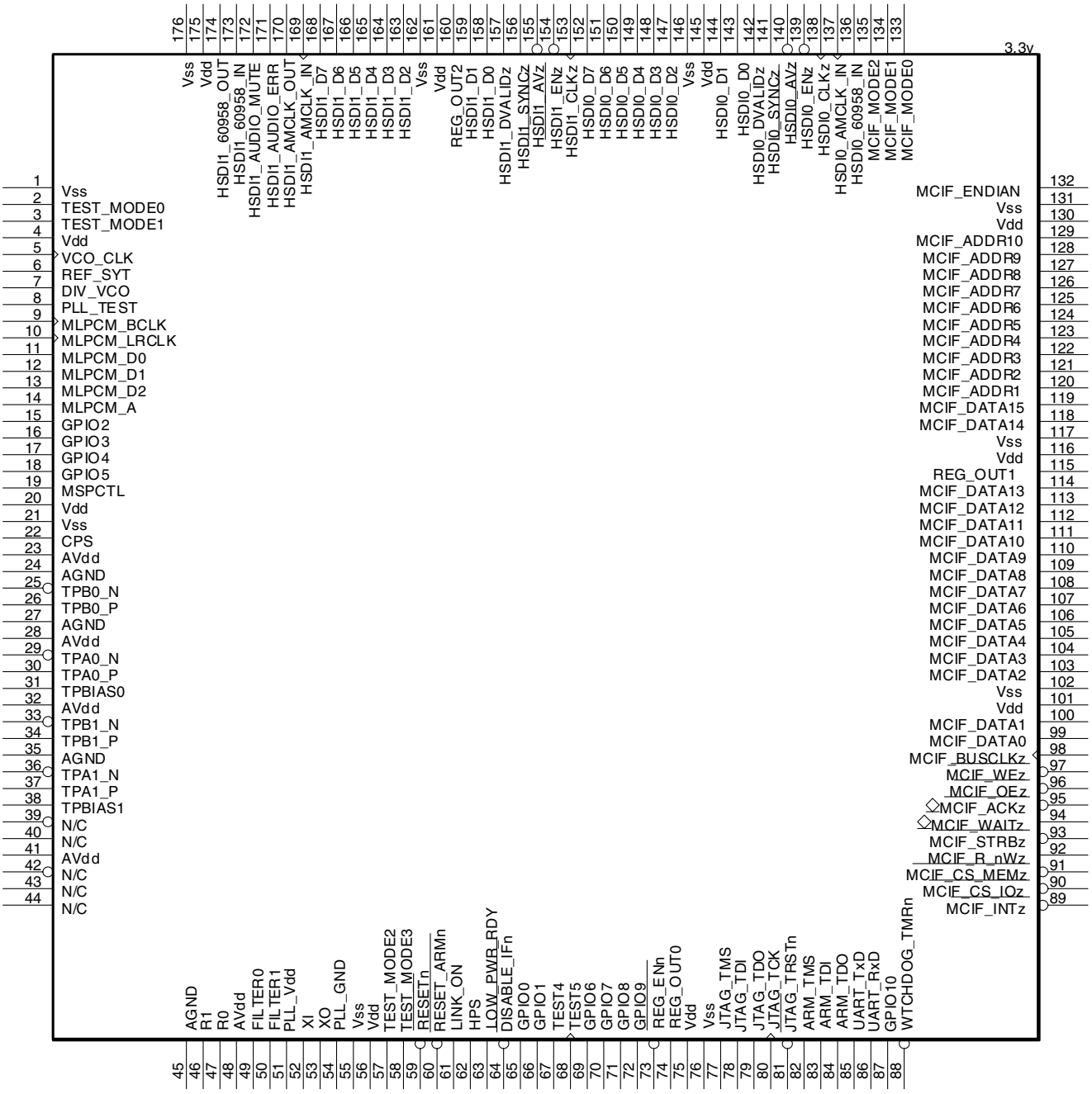
• List of IC

TSB43CA42ZGW, SM5819AF, TA1270BF

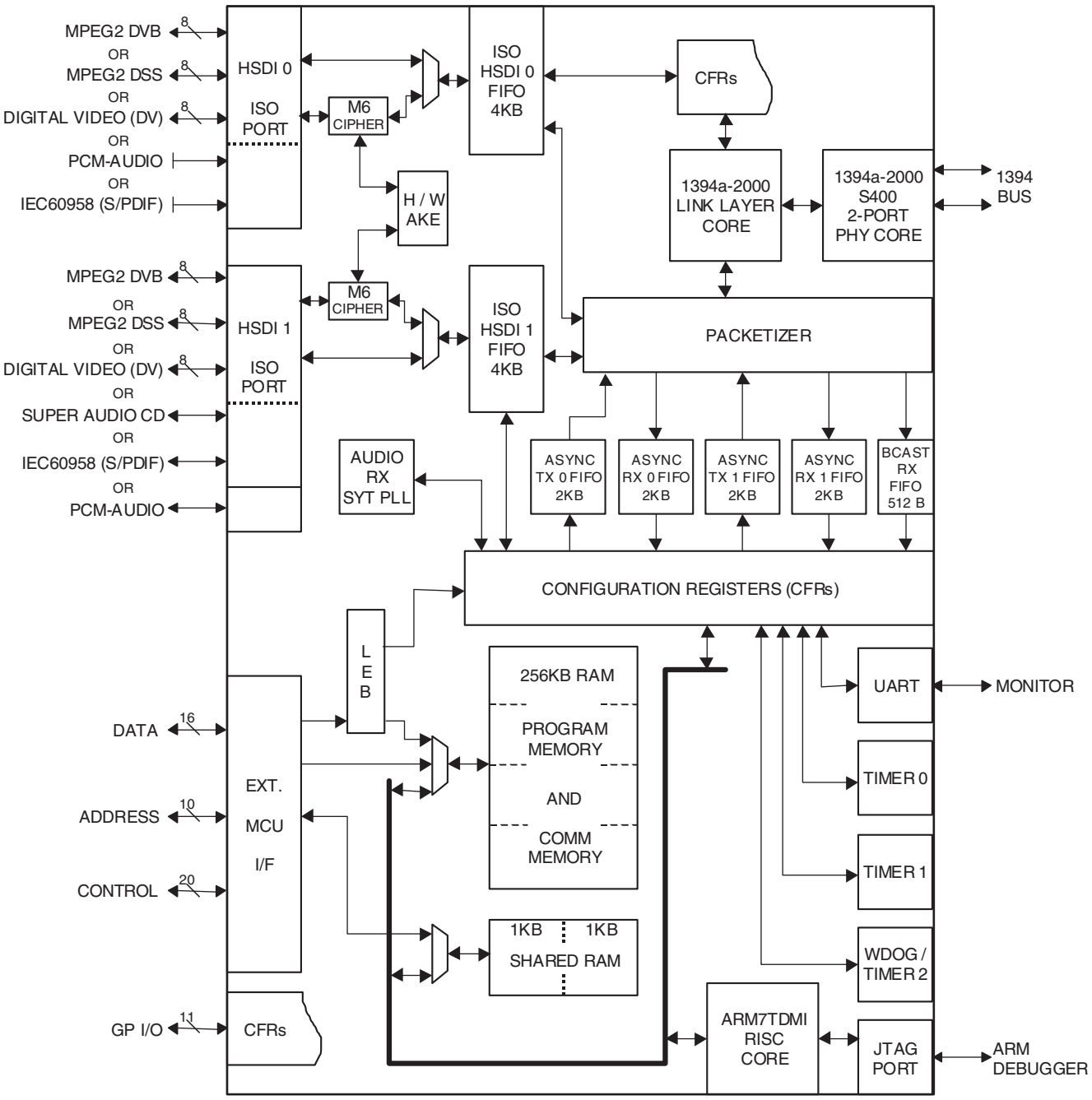
■ TSB43CA42ZGW (1394 ASSY : IC201)

• iceLynx-Micro

● Pin Arrangement (Top view)



● Block Diagram



● Pin Function

Miscellaneous Pins

No.	Pin Name	I/O	Pin Function
64	DISABLE_IFn	I	Interface disable. When asserted, the interfaces are put into a high-Z state. Interfaces include: ex-CPU, HSDI, GPIO, and WTCH_DG_TMRn.
62	HPS	I	Host power status. This indicates the power status of the external system to iceLynx-Micro. A rising edge indicates the system CPU has been turned ON. (The internal ARM must wake up.) A falling edge indicates the system CPU has been turned OFF. (The internal ARM decides if power down is necessary.)
63	LOW_PWR_RDY	O	Output to system to indicate iceLynx-Micro is ready to go into a low power state. The ARM and WTCH_DG_TMRn control this pin.
88	WTCH_DG_TMRn	O	Watch dog timer (for the ARM). iceLynx-Micro hardware asserts this pin whenever ARM software has not updated the Timer2 register within the allowed time period.
60	RESET_ARMn	I	ARM reset. This signal resets the internal ARM processor.
59	RESETn	I	Device reset. This signal resets all logic.This includes the PHY,link core, memory, the ARM, and random logic.

Power and Ground Pins

No.	Pin Name	I/O	Pin Function
1,21,55,76, 102,117,131, 146,162,176	VSS	–	Digital ground
24,27,35,45	AGND	–	Analog ground
54	PLL_GND	–	PLL ground
4,20,56,75, 101,116,130, 145,161,175	VDD	–	Digital power supply. Must be set to 3.3-V nominal.
23,28,32,41,48	AVDD	–	Analog power supply. Must be set to 3.3-V nominal.
51	PLL_VDD	–	PLL power supply. Must be set to 3.3-V nominal.

Regulator Pins

No.	Pin Name	I/O	Pin Function
73	REG_ENn	I	Internal regulator enable. The iceLynx-Micro core voltage is 1.8 V. Internal regulators are used to regulate the 3.3-V VDD inputs to 1.8 V. This pin enables the regulators.
74	REG_OUT0	O	1.8-V regulator output. This pin must be connected to ground using a 0.1-µF capacitor.
115	REG_OUT1	O	1.8-V regulator output. This pin must be connected to ground using a 0.1-µF capacitor.
160	REG_OUT2	O	1.8-V regulator output. This pin must be connected to ground using a 0.1-µF capacitor.

External CPU Interface Pins

No.	Pin Name	I/O	Pin Function
95	MCIF_ACKz	I/O	MCIF acknowledge pin. Default active low. iceLynx-Micro asserts this signal if it has completed the MCIF request. This signal is driven when chip select (CS) is asserted. This signal is used for the following modes: • 68000 + wait I/O access • I/O Type-3 MPC850
120	MCIF_ADDR1	I	MCIF address 1 pin. This data pin is the least significant bit of the MCIF address bus. MCIF_ADDR0 is internally grounded. Only 16-bit addressing is allowed. MCIF_ADDR1 must be connected to the Address1 signal of the system CPU.

No.	Pin Name	I/O	Pin Function
121	MCIF_ADDR2	I	MCIF address 2 pin
122	MCIF_ADDR3	I	MCIF address 3 pin
123	MCIF_ADDR4	I	MCIF address 4 pin
124	MCIF_ADDR5	I	MCIF address 5 pin
125	MCIF_ADDR6	I	MCIF address 6 pin
126	MCIF_ADDR7	I	MCIF address 7 pin
127	MCIF_ADDR8	I	MCIF address 8 pin
128	MCIF_ADDR9	I	MCIF address 9 pin
129	MCIF_ADDR10	I	MCIF address 10 pin. This data pin is the most significant bit of the MCIF address bus.
98	MCIF_BUSCLKz	I	MCIF bus clock. This pin is only used for the MCIF synchronous mode. I/O Type-3 MPC850 and the memory access. This signal must be pulled high if not used.
90	MCIF_CS_IOz	I	MCIF chip select for all I/O MCIF modes.
91	MCIF_CS_MEMz	I	MCIF chip select for the memory MCIF mode.
99	MCIF_DATA0	I/O	MCIF data 0 pin. This data pin is the least significant bit of the MCIF data bus.
100	MCIF_DATA1	I/O	MCIF data 1 pin.
103	MCIF_DATA2	I/O	MCIF data 2 pin.
104	MCIF_DATA3	I/O	MCIF data 3 pin.
105	MCIF_DATA4	I/O	MCIF data 4 pin.
106	MCIF_DATA5	I/O	MCIF data 5 pin.
107	MCIF_DATA6	I/O	MCIF data 6 pin.
108	MCIF_DATA7	I/O	MCIF data 7 pin.
109	MCIF_DATA8	I/O	MCIF data 8 pin.
110	MCIF_DATA9	I/O	MCIF data 9 pin.
111	MCIF_DATA10	I/O	MCIF data 10 pin.
112	MCIF_DATA11	I/O	MCIF data 11 pin.
113	MCIF_DATA12	I/O	MCIF data 12 pin.
114	MCIF_DATA13	I/O	MCIF data 13 pin.
118	MCIF_DATA14	I/O	MCIF data 14 pin.
119	MCIF_DATA15	I/O	MCIF data 15 pin. This data pin is the most significant bit of the MCIF data bus.
132	MCIF_ENDIAN	I	MCIF endian pin. This sets the endianness for accesses between the external CPU and the internal iceLynx-Micro memory. This pin sets endianness for all MCIF modes. When set to 0, data is read/written to the ex-CPU exactly as it is stored in iceLynx-Micro memory. (Big endian) When set to 1, data is swapped on half-word and byte boundaries before it is read/written to the ex-CPU. (Little endian)
89	MCIF_INTz	O	MCIF Interrupt. This signal is push-pull (always asserted). It does not require a pull-up resistor.
133	MCIF_MODE0	I	MCIF mode 0. Used to select MCIF mode.
134	MCIF_MODE1	I	MCIF mode 1. Used to select MCIF mode.
135	MCIF_MODE2	I	MCIF mode 2. Used to select MCIF mode.
96	MCIF_OEz	I	MCIF output enable. Default active low. This input pin indicates if the system CPU wants to perform a MCIF read access. This signal is used for the following modes: • SH-3 I/O access • M16C/62 I/O access • Memory access This signal must be pulled high if not used.
92	MCIF_R_nWz	I	MCIF read/write pin. Default value for a read is 1. Default value for a write is 0.
93	MCIF_STRBz	I	MCIF strobe pin. Default active low. This pin is used (along with MCIF_CS_IOz) to validate the MCIF access. This signal is used for the following modes: • 68000 + wait I/O access • MPC850 I/O access When not used, this pin must be pulled high.
94	MCIF_WAITz	O	MCIF wait pin. Default active high. iceLynx-Micro asserts this signal if it is not ready to service an MCIF request. When not asserted, this signal is in a high-Z state. This signal is used for the following modes: • 68000 + wait I/O access • SH-3 I/O access • M16C/62 I/O access
97	MCIF_WEz	I	MCIF Write Enable. Default active low. This input pin indicates if the system CPU wants to perform a MCIF write access. This signal is used for the following modes: • SH-3 I/O access • M16C/62 I/O access • Memory access This signal must be pulled high if not used.

Universal Asynchronous Receiver Transmitter Pins

No.	Pin Name	I/O	Pin Function
86	UART_RxD	I	UART receive port. Data from the system is input to the UART buffer using this pin.
85	UART_TxD	O	UART transmit port. Data from the UART buffer is output to the system using this pin.

Joint Test Action Group (JTAG) and ARM Pins

No.	Pin Name	I/O	Pin Function
80	JTAG_TCK	I	JTAG clock pin. Both the boundary scan and ARM JTAG uses this input for the JTAG clock.
78	JTAG_TDI	I	JTAG test data input pin
79	JTAG_TDO	O	JTAG test data output pin
77	JTAG_TMS	I	JTAG test mode selector pin.
81	JTAG_TRSTn	I	JTAG reset pin. Both the boundary scan and ARM JTAG uses this input for the JTAG clock. **Note 1**: TSB43Cx43A/TSB43CA42 must have JTAG_TRSTn=0 for correct ARM interrupt operation. **Note 2**: JTAG_TRST must be asserted once after power-up for correct operation of the iceLynx-Micro.
83	ARM_TDI	I	ARM JTAG test data input pin
84	ARM_TDO	O	ARM JTAG test data output pin
82	ARM_TMS	I	ARM JTAG test mode selector pin

General-Purpose Input/Out Pins (GPIO)

No.	Pin Name	I/O	Pin Function
65	GPIO0	I/O	GPIO0. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
66	GPIO1	I/O	GPIO1. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
15	GPIO2	I/O	GPIO2. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
16	GPIO3	I/O	GPIO3. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
17	GPIO4	I/O	GPIO4. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
18	GPIO5	I/O	GPIO5. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
69	GPIO6	I/O	GPIO6. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
70	GPIO7	I/O	GPIO7. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
71	GPIO8	I/O	GPIO8. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
72	GPIO9	I/O	GPIO9. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.
87	GPIO10	I/O	GPIO10. Can be programmed as general-purpose input, general-purpose output, or specific function. Power-up default is input.

Physical Layer Pins

No.	Pin Name	I/O	Pin Function
29	TPA0_N	I/O	Twisted pair A differential signal terminals. For an unused port, TPAN and TPAP signals are left open (i.e., TSB43CA42 for Port 2).
36	TPA1_N	I/O	
42	TPA2_N	I/O	
30	TPA0_P	I/O	
37	TPA1_P	I/O	
43	TPA2_P	I/O	

No.	Pin Name	I/O	Pin Function
25	TPB0_N	I/O	Twisted pair B differential signal terminals. For an unused port, TPBN and TPBP signals are left open (i.e., TSB43CA42 for Port 2).
33	TPB1_N	I/O	
39	TPB2_N	I/O	
26	TPB0_P	I/O	
34	TPB1_P	I/O	
40	TPB2_P	I/O	
31	TPBIAS0	I/O	Twisted pair bias output. These signals provide the 1.86-V nominal bias voltage needed for proper operation of the twisted pair driver and receivers for signaling an active connection to a remote node. For an unused port, TPBIAS is left unconnected (i.e., TSB43CA42 for Port 2).
38	TPBIAS1	I/O	
44	TPBIAS2	I/O	
46	R1	–	Current setting resistors. These pins are connected to external resistors to set the internal operating currents and cable driver output currents.
47	R0	–	
49	FILTER0	I/O	PLL filter terminals. These terminals are connected to an external capacitor to form a lag-lead filter required for stable operation of the internal frequency-multiplier PLL, which is using the crystal oscillator.
50	FILTER1	I/O	
52	XI	–	Crystal oscillator inputs. These terminals connect to a 24.576-MHz parallel resonant fundamental mode crystal.
53	XO	–	
22	CPS	I	Cable power status. This input to iceLynx-Micro detects if cable power is present. This pin must be connected to the cable power through 390-kΩ resistor.
19	MSPCTL	I	Maximum speed of PHY. When this signal is high; S100 and S200 operation. When this signal is low; S100, S200, and S400 operation.
61	LINKON	O	Link-on output. This signal is asserted whenever LPS is low and a link-on packet is received from the 1394 bus.

High Speed Data Interface (HSDI) Port 0 Pins

No.	Pin Name	I/O	Pin Function
136	HSDI0_60958_IN	I	60958 data input
137	HSDI0_AMCLK_IN	I	Audio master clock input. This clock is used to decode the biphase encoding of 60958 data. This pin is also used to input the 1.5*BCLK for flow control mode.
140	HSDI0_AVz	O	HSDI port 0 available. Programmable. Default active low. For receive from 1394, this signal indicates if a 1394 packet is available in the receive buffer for reading. The HSDI_AV signal for MPEG2 data also depends on time stamp based release. For transmit to 1394 , this signal indicates buffer level in HSDI TX modes 8 and 9 by programming a CFR. If the buffer level is above a programmed level, HSDI_AV will be asserted.
138	HSDI0_CLKz	I	HSDI port 0 clock. Programmable. Default rising edge sample. This clock is used to operate the HSDI port 0 logic. In parallel mode, the maximum clock is 27 MHz. In serial mode, the maximum clock is 70 MHz. This signal is output to HSDI1_CLKz in pass-through mode. This signal is used as HSDI0_MLPCM_BCLK for DVD-audio transmit.
143	HSDI0_D0	I/O	HSDI port 0 data 0 pin. Data 0 is the least significant bit on the HSDI data bus. In serial mode, only HSDI0_D0 is used. This signal is output to HSDI1_D0 in pass-through mode. This signal is used as HSDI0_MLPCM_D0 for DVD-audio transmit.
144	HSDI0_D1	I/O	HSDI port 0 Data 1 pin This signal is output to HSDI1_D1 in pass-through mode. This signal is used as HSDI0_MLPCM_D1 for DVD-audio transmit.
147	HSDI0_D2	I/O	HSDI port 0 Data 2 pin This signal is output to HSDI1_D2 in pass-through mode. This signal is used as HSDI0_MLPCM_D2 for DVD-audio transmit.
148	HSDI0_D3	I/O	HSDI port 0 Data 3 pin This signal is output to HSDI1_D3 in pass-through mode. This signal is used as HSDI0_MLPCM_A for DVD-audio transmit.
149	HSDI0_D4	I/O	HSDI port 0 data 4 pin This signal is output to HSDI1_D4 in pass-through mode
150	HSDI0_D5	I/O	HSDI port 0 data 5 pin This signal is output to HSDI1_D5 in pass-through mode
151	HSDI0_D6	I/O	HSDI port 0 data 6 pin This signal is output to HSDI1_D6 in pass-through mode
152	HSDI0_D7	I/O	HSDI port 0 data 7 pin Data 0 is the most significant bit on the HSDI data bus. This signal is output to HSDI1_D7 in pass-through mode

No.	Pin Name	I/O	Pin Function
142	HSDI0_DVALIDz	I/O	HSDI port 0 data valid pin. Programmable. Default active high. This pin indicates if data on the HSDI data bus valid for reading or writing. For transmit to 1394, this signal is provided by the system with the data. For receive from 1394, iceLynx-Micro provides this signal with the data. For HSDI DV modes, this signal is used as HSDI0_FrameSync indicating DV frame boundary. This signal is output to HSDI1_DVALIDz in pass-through mode. If not used in transmit mode, this signal is pulled low.
139	HSDI0_ENz	I	HSDI port 0 enable. Programmable. Default active low. Input by the system to enable the HSDI for both transmit to and receive from 1394. If not used, this signal is pulled enabled (low or high depending on the polarity set). The application can use HSDI_DVALID or HSDI_SYNC to validate the HSDI data. This signal is used as HSDI0_MLPCM_LRCLK for DVD-audio transmit.
141	HSDI0_SYNCz	I/O	HSDI port 0 sync signal. Programmable. Default active high. This signal indicates the start of packet. For transmit to 1394, this signal is provided by the system with the data. For receive from 1394, iceLynx-Micro provides this signal with the data. This signal is output to HSDI1_SYNCz in pass-through mode. If not used in transmit mode, this signal is pulled low or high depending on the polarity.

High Speed Data Interface (HSDI) Port 1 Pins

No.	Pin Name	I/O	Pin Function
169	HSDI1_AMCLK_IN	I	Audio master clock input. This clock is used to decode the biphase encoding of 60958 data. This pin also inputs the 1.5*BCK for flow control mode. MLPCM interface, HSDI1 audio port, and HSDI1 video port share IsoPathBuffer 1. Only one interface can access the buffer at a time.
170	HSDI1_AMCLK_OUT	O	Audio master clock output. This clock is derived from the VCO_CLK input. 60958 data output from iceLynx-Micro is biphase encoded using this clock.
171	HSDI1_AUDIO_ERR	O	Audio error signal. iceLynx-Micro asserts this signal whenever an audio error condition occurs. (Receive from 1394 only.)
172	HSDI1_AUDIO_MUTE	O	Audio mute status. iceLynx-Micro asserts this signal whenever an audio mute condition has occurred, and hardware has muted the HSDI1 audio interface. (Receive from 1394 only.)
173	HSDI1_60958_IN	I	60958 data input
174	HSDI1_60958_OUT	O	60958 data output This signal is also used as FLWCTRL_DVALID in flow control data valid mode.
155	HSDI1_AVz	O	HSDI port 1 available. Programmable. Default active low. For receive from 1394, this signal indicates if a 1394 packet is available in the receive buffer for reading. The HSDI_AV signal for MPEG2 data also depends on time stamp based release. For transmit to 1394, this signal indicates the buffer level in HSDI TX modes 8 and 9 by programming a CFR. This pin indicates buffer level in transmit mode by programming a CFR. If the buffer level is above a programmed level, HSDI_AV is asserted.
153	HSDI1_CLKz	I/O	HSDI port 1 clock. Programmable. Default rising edge sample. This clock is used to operate the HSDI port 1 logic. In parallel mode, the maximum clock is 27 MHz. In serial mode, the maximum clock is 70 MHz. This signal is used as HSDI1_SACD_BCLK for SACD transmit and receive. MLPCM interface, HSDI1 audio port, and HSDI1 video port share IsoPathBuffer 1. Only one interface can access the buffer at a time.
158	HSDI1_D0	I/O	HSDI port 1 data 0 pin. Data 0 is the least significant bit on the HSDI data bus. In serial mode, only HSDI0_D0 is used. This signal is used as HSDI1_SACD_D0 for SACD transmit and receive.
159	HSDI1_D1	I/O	HSDI port 1 data 1 pin. This signal is used as HSDI1_SACD_D1 for SACD transmit and receive.
163	HSDI1_D2	I/O	HSDI port 1 data 2 pin. This signal is used as HSDI1_SACD_D2 for SACD transmit and receive.

No.	Pin Name	I/O	Pin Function
164	HSDI1_D3	I/O	HSDI port 1 data 3 pin. This signal is used as HSDI1_SACD_D3 for SACD transmit and receive.
165	HSDI1_D4	I/O	HSDI port 1 data 4 pin. This signal is used as HSDI1_SACD_D4 for SACD transmit and receive.
166	HSDI1_D5	I/O	HSDI port 1 data 5 pin. This signal is used as HSDI1_SACD_D5 for SACD transmit and receive.
167	HSDI1_D6	I/O	HSDI port 1 data 6 pin. This signal is used as HSDI1_SACD_D6 for SACD transmit and receive.
168	HSDI1_D7	I/O	HSDI port 1 data 7 pin. Data 0 is the most significant bit on the HSDI data bus.
157	HSDI1_DVALIDz	I/O	HSDI port 1 data valid pin. Programmable. Default active high. This pin indicates if data on the HSDI data bus valid for reading or writing. For transmit to 1394, this signal is provided by the system with the data. For receive from 1394, iceLynx-Micro provides this signal with the data. For HSDI DV modes, this signal is used as HSDI0_FrameSync indicating DV frame boundary. If not used in transmit mode, this signal is pulled low.
154	HSDI1_ENz	I	HSDI port 1 enable. Programmable. Default active low. Input by the system to enable the HSDI for both transmit to and receive from 1394. If not used, this signal is pulled enabled (low or high depending on the polarity set). The application can use HSDI_DVALID or HSDI_SYNC to validate the HSDI data.
156	HSDI1_SYNCz	I/O	HSDI port 1 sync signal. Programmable. Default active high. This signal indicates the start of a packet. For transmit to 1394, this signal is provided by the system with the data. For receive from 1394, iceLynx-Micro provides this signal with the data. If not used in transmit mode, this signal is pulled low or high depending on the polarity. This signal is used as HSDI1_SACD_FRAME for SACD transmit and receive.

DVD-Audio Interface Pins

No.	Pin Name	I/O	Pin Function
14	MLPCM_A	I/O	Audio MLPCM interface ancillary data. Ancillary data is input/output using this pin. For DVD-Audio, MLPCM_LRCLK determines if ancillary left or ancillary right data is present. This signal also functions as FLWCTL_A in flow control mode
9	MLPCM_BCLK	I/O	Audio MLPCM interface bit clock. Multiple functions: • DVD audio BCK (I) • DVD audio BCK (O) • Flow control BCK (I/O) MLPCM interface, HSDI1 audio port, and HSDI1 video port share IsoPathBuffer 1. Only one interface can access the buffer at a time.
11	MLPCM_D0	I/O	Audio MLPCM interface D0. Contains channel 1 and channel 2 information. MLPCM_LRCLK determines which channel is present. This signal also functions as FLWCTL_D0 in flow control mode.
12	MLPCM_D1	I/O	Audio MLPCM interface D1. Contains channel 3 and channel 4 information. MLPCM_LRCLK determines which channel is present. This signal also functions as FLWCTL_D0 in flow control mode
13	MLPCM_D2	I/O	Audio MLPCM interface D2. Contains channel 5 and channel 6 information. MLPCM_LRCLK determines which channel is present. This signal also functions as FLWCTL_D0 in flow control mode
10	MLPCM_LRCLK	I/O	Audio MLPCM interface left-right clock. Multiple functions: • DVD audio LRCLK (I) • DVD audio LRCLK (O) • Flow control LRCLK (I/O)

Audio Phase Lock Loops Pins

No.	Pin Name	I/O	Pin Function
7	DIV_VCO	O	Output for external phase detector. This signal is the divided VCO_CLK. It used by the external phase detector to compare with the REF_SYT signal. The divide ratios are setup in CFR.
8	PLL_TEST	O	PLL test. This signal is used for internal TI testing and must be unconnected for normal operation.
6	REF_SYT	O	Output for external phase detector. This signal represents the SYT match for received audio or DV packets. The phase detector uses it as input to detect differences between the SYT match and the VCO clock.
5	VCO_CLK	I	Input from VCO. This signal generates internal audio and DV clocks for receive clock recovery. Audio frequency: 33.868 MHz or 36.864 MHz. DV frequency: 30.72 MHz, 27 MHz

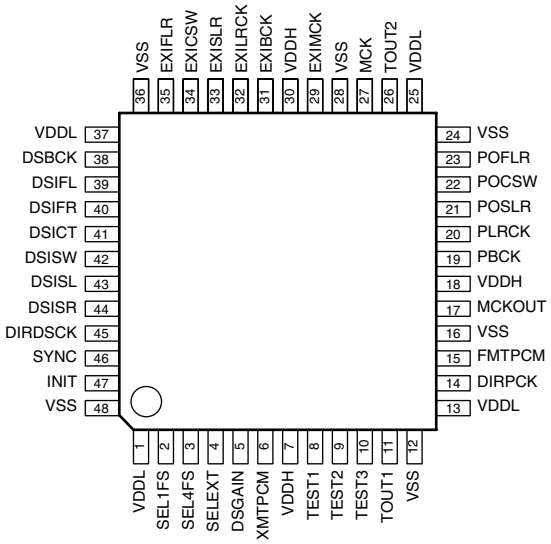
Test Mode Pins

No.	Pin Name	I/O	Pin Function
2	TEST_MODE0	I/O	Test mode. Used for internal TI testing. Must be pulled low for normal operation.
3	TEST_MODE1	I/O	
57	TEST_MODE2	I/O	
58	TEST_MODE3	I/O	
67	TEST4	I/O	Factory test pin. Must tie to low for normal operation. Recommend connection to ground through a 1 kΩ resistor.
68	TEST5	I/O	

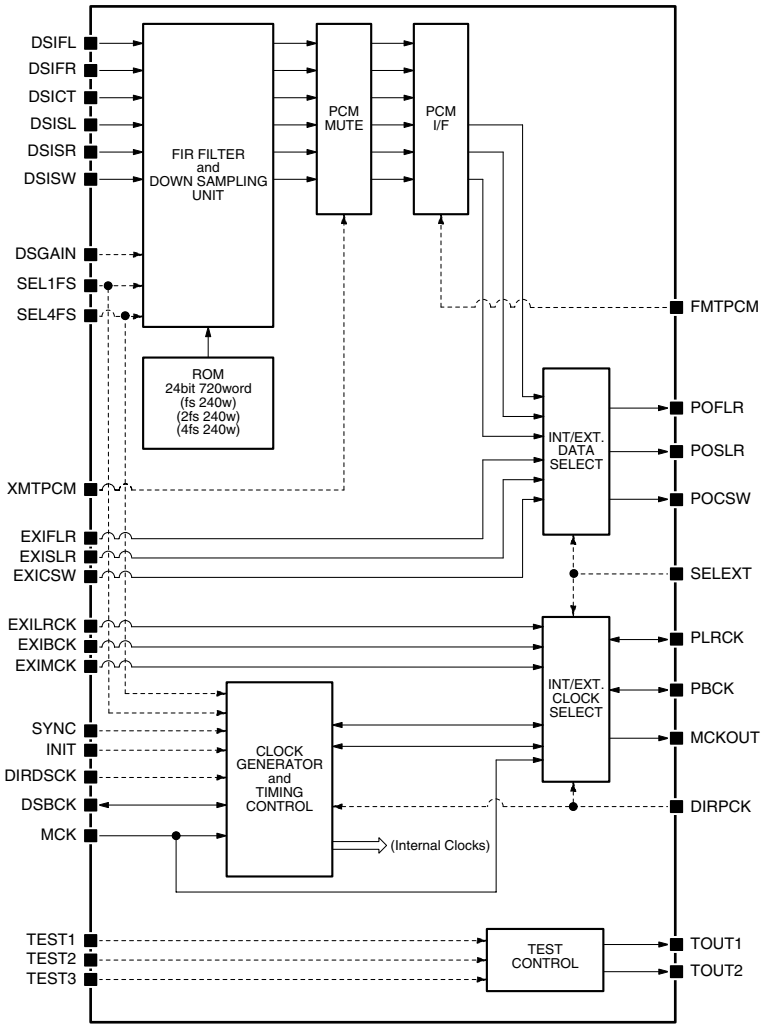
SM5819AF (1394 ASSY : IC401)

• 6-channel DS-PCM Converter

● Pin Arrangement (Top view)



● Block Diagram



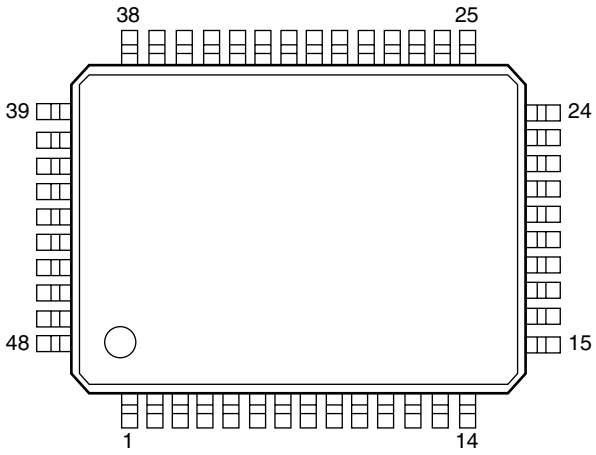
● Pin Function

No.	Name	I/O	Function
1	VDDL	–	Core power supply
2	SEL1FS	I	PCM output rate select 1 L: 2fs/4fs, H: fs
3	SEL4FS	I	PCM output rate select 2 L: 2fs, H: 4fs
4	SELEXT	I	fs/2fs/4fs output and external data output select L: fs/2fs/4fs data, H: external data (EXI**)
5	DSGAIN	I	DSD signal gain setting L: 100% modulation = 0dB, H: 50% modulation = 0dB
6	XMTPCM	I	PCM output mute control input L: Mute ON, H: Mute OFF
7	VDDH	–	I/O power supply
8	TEST1	I	Test input 1 (must be open or tie LOW for normal operation)
9	TEST2	I	Test input 2 (must be open or tie LOW for normal operation)
10	TEST3	I	Test input 3 (must be open or tie LOW for normal operation)
11	TOUT1	O	Test output 1
12	VSS	–	Ground
13	VDDL	–	Core power supply
14	DIRPCK	I	PCM output PBCK/PLRCK I/O select L: Output (master mode), H: Input (slave mode)
15	FMTPCM	I	PCM output format select L: MSB-first left-justified 32-bit, H: IIS 32-bit
16	VSS	–	Ground
17	MCKOUT	O	System clock output (selected by SELEXT)
18	VDDH	–	I/O power supply
19	PBCK	I/O	PCM output BCK bit clock
20	PLRCK	I/O	PCM output LRCK word clock
21	POSLR	O	PCM data output: surround left/right-channel
22	POCSW	O	PCM data output: center/subwoofer channel
23	POFLR	O	PCM data output: front left/right-channel
24	VSS	–	Ground
25	VDDL	–	Core power supply
26	TOUT2	O	Test output 2
27	MCK	I	Master clock input: 512fs (22.5792MHz, fs = 44.1kHz)
28	VSS	–	Ground
29	EXIMCK	I	External system clock input
30	VDDH	–	I/O power supply
31	EXIBCK	I	External PCM data BCK bit clock input
32	EXILRCK	I	External PCM data LRCK word clock input
33	EXISLR	I	External PCM data input: surround left/right-channel
34	EXICSW	I	External PCM data input: center/subwoofer channel
35	EXIFLR	I	External PCM data input: front left/right-channel
36	VSS	–	Ground
37	VDDL	–	Core power supply
38	DSBCK	I/O	DSD data input bit clock. Controlled by DIRDSCK
39	DSIFL	I	DSD data input: front left-channel
40	DSIFR	I	DSD data input: front right-channel
41	DSICT	I	DSD data input: center channel
42	DSISW	I	DSD data input: subwoofer channel
43	DSISL	I	DSD data input: surround left-channel
44	DSISR	I	DSD data input: surround right-channel
45	DIRDSCK	I	DSBCK I/O select L: input (slave), H: output (master)
46	SYNC	I	Forced synchronization input (active-HIGH edge)
47	INIT	I	Initialization input: Active-LOW, Resync on L -> H
48	VSS	–	Ground

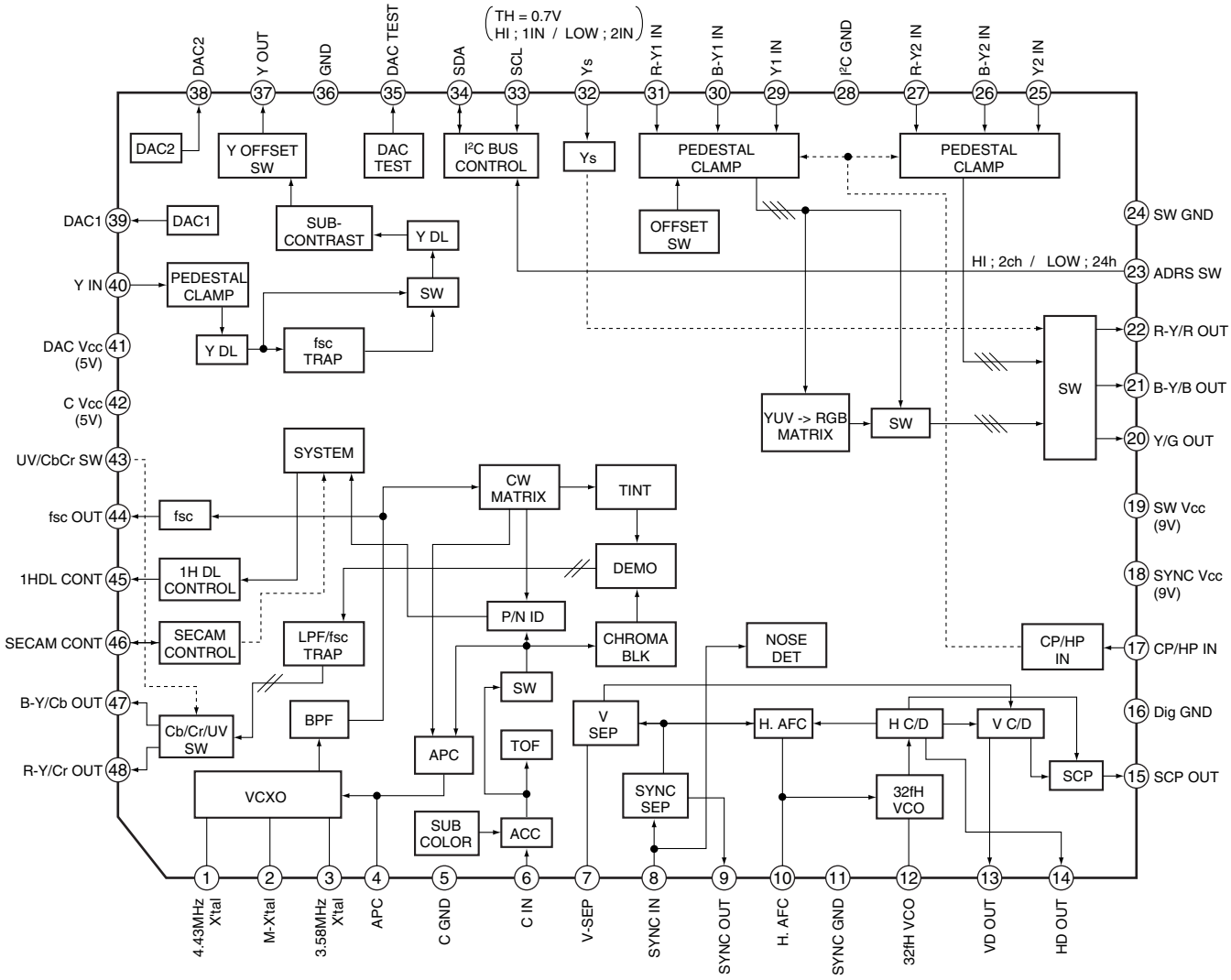
TA1270BF (VIDEO CONVERT ASSY : IC3514)

• PAL/NTSC Video Chroma and Sync Processing System for PIP/POP/PAP

● Pin Arrangement (Top view)



● Block Diagram



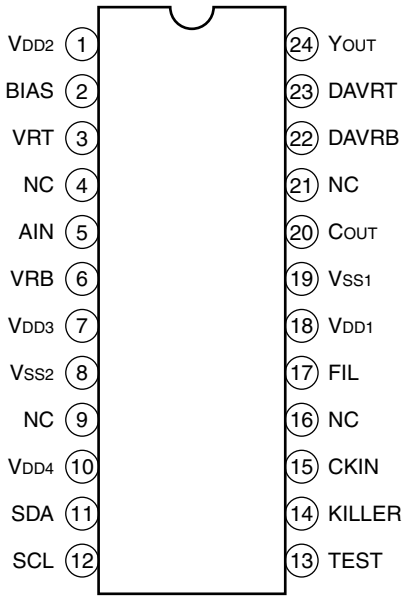
● Pin Function

No.	Name	Function
1	X'tal-1	Connect crystal. Serial capacitance can vary oscillator frequency f0 ; parallel capacitance can vary oscillator adjustment range.
2	X'tal-2	
3	X'tal-3	
4	APC filter	Connect APC filter for CHROMA demodulation. The voltage of this pin determines the VCXO oscillator frequency.
5	C GND	CHROMA processor GND pin
6	CHROMA input	CHROMA input pin. Input CHROMA signal after Y / C separation.
7	V-SEP	Connect vertical sync separation filter.
8	Sync input	Sync separator circuit input pin. Input via the clamp capacitor.
9	Sync output	Outputs sync signal separated using the sync separator circuit.Open collector output. Connect a pull-up resistor.
10	AFC filter	Connect a horizontal AFC filter. The voltage of this pin determines the horizontal output frequency.
11	SYNC GND	Sync processor GND pin
12	32 fH VCO	Connect a ceramic oscillator for horizontal oscillation.
13	VP output	Vertical pulse output pin
14	HD output	Outputs HD pulse processed by the AFC. HD output phase or pulse width can be changed by bus setting.
15	SCP output	Outputs sand castle pulse (SCP). The output signals are clamp pulse, horizontal blanking pulse, and vertical blanking pulse. The minimum load resistance is 3 kΩ.
16	Dig GND	Logic block GND pin
17	CP / HP input	Input pin for CP / HP pulse used to operate the SW circuit. CP is used as clamp pulse ; HP as blanking pulse.
18	SYNC V_{CC}	V_{CC} pins for sync processor block and SW block. Connect 9 V (Typ.).
19	SW V_{CC}	
20	Y / G output	Output Y / B-Y / R-Y or R / G / B. YUV / RGB output is switched by bus setting.
21	B-Y / B output	
22	R-Y / R output	
23	ADRS SW	Pin used to switch slave addresses. GND – 24H, VCC – 2CH
24	SW GND	Switch block GND pin
25	Y2 input	Y2 / B-Y2 / R-Y2 (YUV2 input) or R2/ G2 / B2 input pin. Input via capacitor used for clamp operation.
26	B-Y2 input	
27	R-Y2 input (YUV2)	
28	I^2C GND	I^2C block GND pin
29	Y1 input	Y1 / B-Y1 / R-Y1 (YUV1 input) or R1/ G1 / B1 input pin. Input via capacitor used for clamp operation.
30	B-Y1 input	
31	R-Y1 input (YUV1)	
32	Ys	High-speed switch for switching input pins 25, 26, and 27 (YUV2) and input pins 29, 30, and 31 (YUV1). The threshold is 0.7 V.
33	SCL	I^2C Bus SCL pin
34	SDA	I^2C Bus SDA pin
35	DAC TEST	DAC monitor pin for IC shipping inspection.
36	GND	GND pin
37	Y output	Outputs Y signal which passed fsc trap (trap is set on or off by Bus) and Y delay line circuit.
38	DAC2	1 bit DAC output pins
39	DAC1	
40	Y input	Composite video signal or Y signal input pin. Input via the clamp capacitor.
41	DAC V_{CC}	V_{CC} pins for DAC block and CHROMA processing block. Connect 5V (Typ.).
42	C V_{CC}	
43	UV / CbCr SW	UV / CbCr demodulation switch. OPEN – UV GND – CbCr CbCr demodulation is effective for NTSC only.
44	fsc output	Outputs crystal oscillator fsc. The pin voltage goes high only when 3.58NTSC is received.
45	1HDL CONT	Outputs PAL / SECAM / NTSC identification result. Adjust to DC and connect output to 1H DL IC.
46	SECAM CONT	I / O pin used to control SECAM demodulator IC. If 250 É A or more flows from this pin, SECAM is determined.
47	B-Y / Cb output	Outputs B-Y (U) signal or Cb signal. Incorporates LPF to reject carrier.
48	R-Y / Cr output	Outputs R-Y (V) signal or Cr signal. Incorporates LPF to reject carrier. Pulling up the pin with 10 kΩ monitors CHROMA signal after ACC and TOF circuits (before demo input).

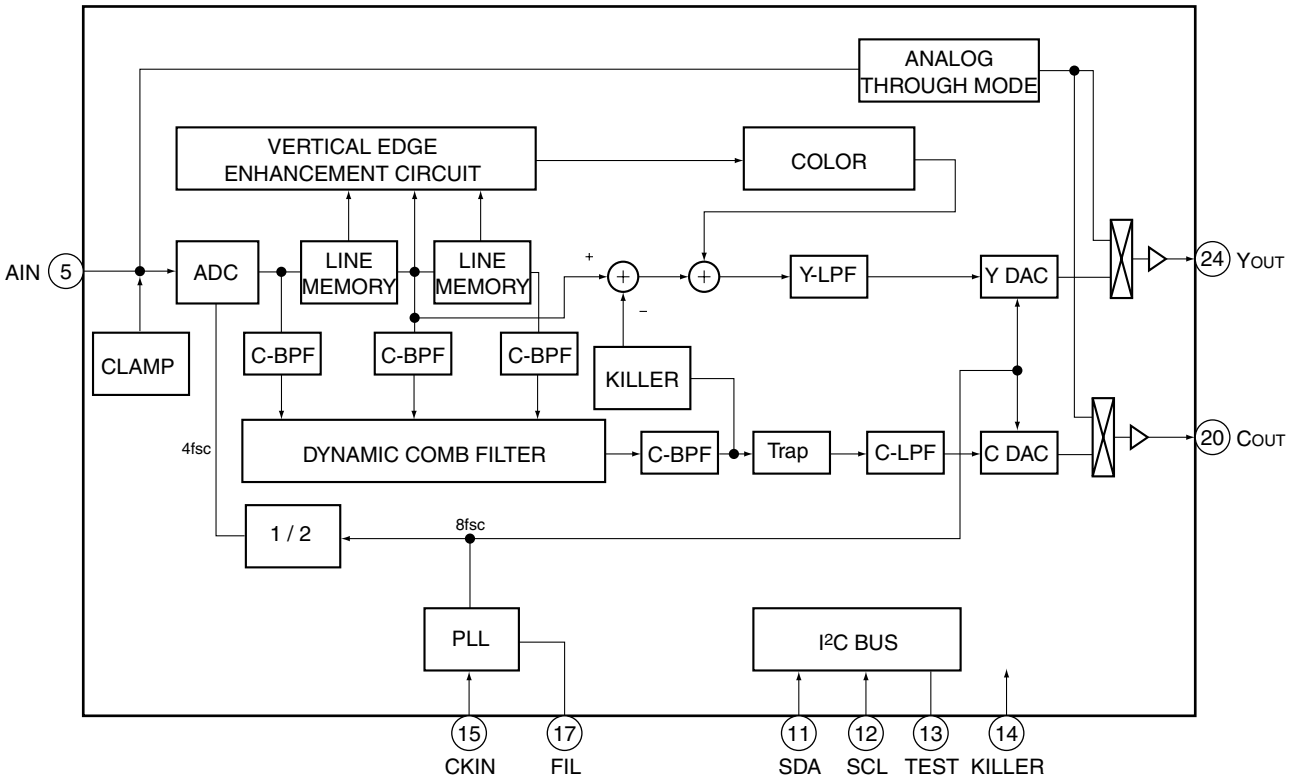
TC90A49F (VIDEO CONVERT ASSY : IC3508)

• 3 Line Digital Y/C Separator IC

● Pin Arrangement (Top view)



● Block Diagram



● Pin Function

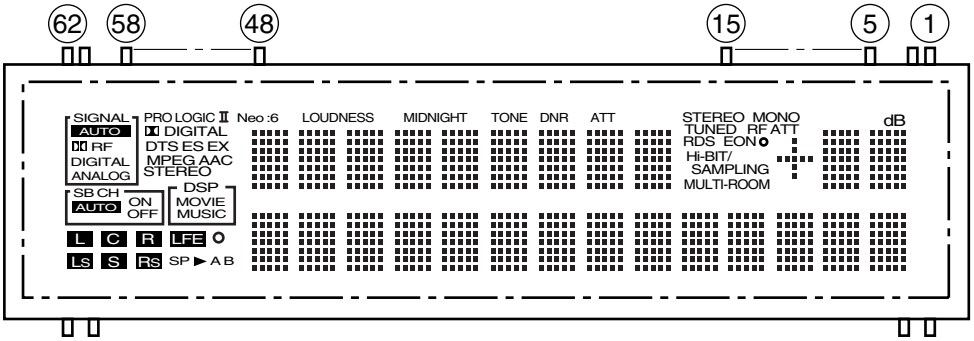
No.	Pin Name	I/O	Function
1	V_{DD2}	–	ADC and DAC analog power supply
2	BIAS	–	ADC bias voltage. Stabilize by attaching a 0.01µF capacitor.
3	VRT	–	ADC input range D upper limit voltage. Stabilize by attaching a 0.01µF capacitor.
4	NC	–	Non connection
5	AIN	I	ADC input. Inputs 1.0 Vp-p video signal. Sync tip clamp is performed.
6	VRB	–	ADC input range D lower limit voltage. Stabilize by attaching a 0.01µF capacitor.
7	V_{DD3}	–	ADC and DAC logic power supply
8	V_{SS2}	–	Logic and internal DRAM GND (digital)
9	NC	–	Non connection
10	V_{DD4}	–	Internal DRAM power supply
11	SDA	–	I^2C BUS SDA
12	SCL	–	I^2C BUS SCL
13	TEST	I	Shipment test mode switch or I^2C bus setting reset pin. When High, test mode, setting all I^2C bus settings to 0. Hold High for at least 100µs. Send I^2C bus settings when this pin is Low.
14	KILLER	I	Y signal comb function ON / OFF switch. When High, comb OFF. When Low, comb ON. When [data 3 : bit 0] is 1, used as vertical edge enhancement circuit ON / OFF switch.
15	CKIN	I	Clock input pin. This pin put a sine wave which is locked to the frequency of the burst signal in the input video signal. Amplitude is 300 mV p-p to 2 Vp-p. Input as high an amplitude as possible without affecting peripheral circuits.
16	NC	–	Non connection
17	FIL	O	Connect the APC filter in the 8 fsc PLL circuit
18	V_{DD1}	–	PLL power supply
19	V_{SS1}	–	ADC, DAC, and PLL GND (analog)
20	C_{OUT}	O	Outputs chrominance signal. External simple LPF for clock elimination recommended.
21	NC	–	Non connection
22	DAVRB	–	DAC output range D lower limit voltage. Stabilize by attaching a 0.01µF capacitor.
23	DAVRT	–	DAC output range D upper limit voltage. Stabilize by attaching a 0.01µF capacitor.
24	Y_{OUT}	O	Outputs luminance signal. External simple LPF for clock elimination recommended.

7.2.2 DISPLAY

■ AAV7087 (DISPLAY ASSY : V3000)

• FL DISPLAY

• Pin Assignment

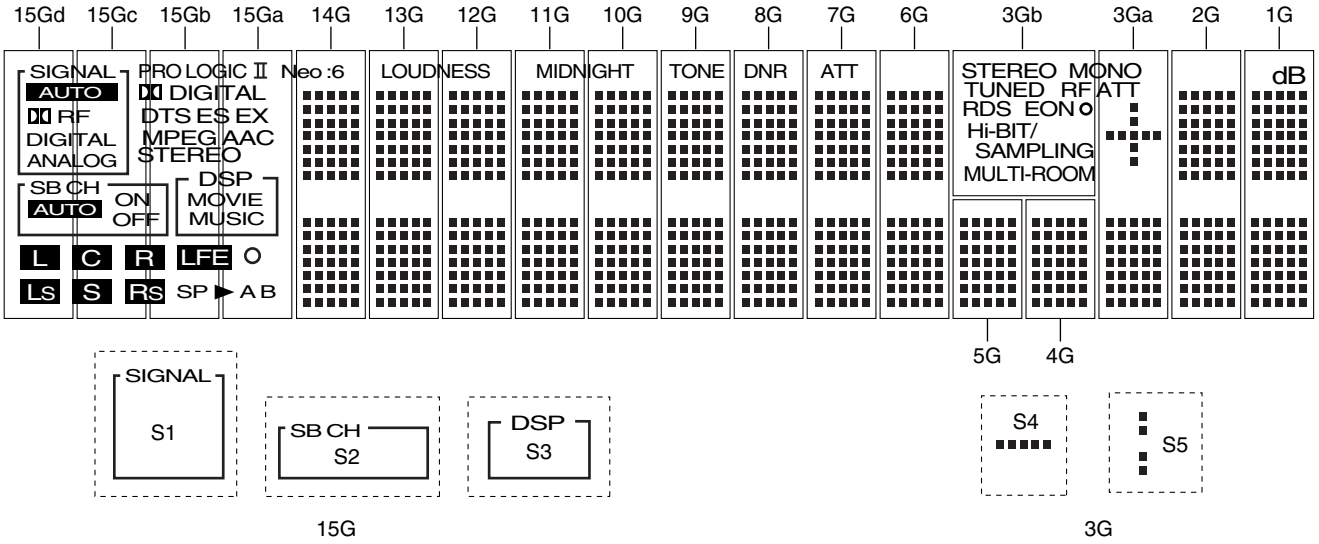


• Pin Connection

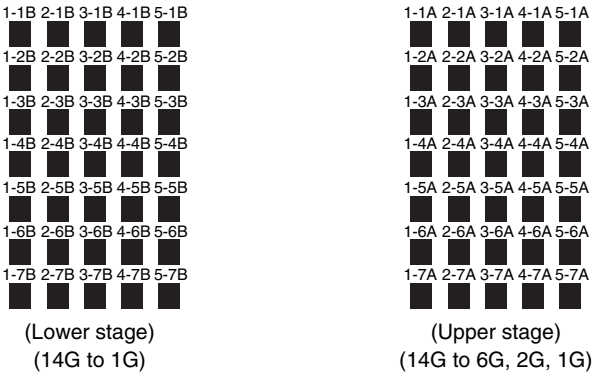
Pin No.	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47-3	2	1
Connection	F2	F2	NP	NP	GND	GND	NC	VH	NC	VDD	BK	LAT	CLK	SI	SO	NP	F1	F1

NOTE
1) F1, F2..... Filament
2) NP..... No pin (5-15 cut it by 2mm)
3) DL..... Datum Line
4) GND..... GND pin
5) VH..... High Voltage Supply pin
6) VDD..... Logic Voltage Supply pin
7) NC..... No connection
(NC pin should be electrically open on the PC board)
8) BK..... Driver Output Blanking
9) LAT..... Latch Control Input
10) CLK..... Shift Register Clock
11) SI..... Serial Data Input
12) SO..... Serial Data Output
(to be open, if don't use)
13) Field of vision is a minimum of 21°
from the lower side.

• Grid Assignment



• Segment Designation



• Anode Connection

	15Gd-15Ga	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3Gb, 3Ga	2G	1G
P1	Neo:6		LOUDNESS		MIDNIGHT		TONE	DNR	ATT	–	–	–	STEREO	–	dB
P2	PROLOGIC	1-1A	1-1A	1-1A	1-1A	1-1A	1-1A	1-1A	1-1A	1-1A	–	–	MONO	1-1A	1-1A
P3	Ⅱ	2-1A	2-1A	2-1A	2-1A	2-1A	2-1A	2-1A	2-1A	2-1A	–	–	TUNED	2-1A	2-1A
P4	S1	3-1A	3-1A	3-1A	3-1A	3-1A	3-1A	3-1A	3-1A	3-1A	–	–	RF ATT	3-1A	3-1A
P5	AUTO	4-1A	4-1A	4-1A	4-1A	4-1A	4-1A	4-1A	4-1A	4-1A	–	–	RDS	4-1A	4-1A
P6	RF	5-1A	5-1A	5-1A	5-1A	5-1A	5-1A	5-1A	5-1A	5-1A	–	–	EON	5-1A	5-1A
P7	DIGITAL	1-2A	1-2A	1-2A	1-2A	1-2A	1-2A	1-2A	1-2A	1-2A	–	–	○	1-2A	1-2A
P8	ANALOG	2-2A	2-2A	2-2A	2-2A	2-2A	2-2A	2-2A	2-2A	2-2A	–	–	HI-BIT/ SAMPLING	2-2A	2-2A
P9	DIGITAL	3-2A	3-2A	3-2A	3-2A	3-2A	3-2A	3-2A	3-2A	3-2A	–	–	S4	3-2A	3-2A
P10	DTS	4-2A	4-2A	4-2A	4-2A	4-2A	4-2A	4-2A	4-2A	4-2A	–	–	S5	4-2A	4-2A
P11	ES	5-2A	5-2A	5-2A	5-2A	5-2A	5-2A	5-2A	5-2A	5-2A	–	–	–	5-2A	5-2A
P12	EX	1-3A	1-3A	1-3A	1-3A	1-3A	1-3A	1-3A	1-3A	1-3A	–	–	–	1-3A	1-3A
P13	MPEG	2-3A	2-3A	2-3A	2-3A	2-3A	2-3A	2-3A	2-3A	2-3A	–	–	–	2-3A	2-3A
P14	AAC	3-3A	3-3A	3-3A	3-3A	3-3A	3-3A	3-3A	3-3A	3-3A	–	–	–	3-3A	3-3A
P15	STEREO	4-3A	4-3A	4-3A	4-3A	4-3A	4-3A	4-3A	4-3A	4-3A	–	–	–	4-3A	4-3A
P16	S2	5-3A	5-3A	5-3A	5-3A	5-3A	5-3A	5-3A	5-3A	5-3A	–	–	–	5-3A	5-3A
P17	AUTO	1-4A	1-4A	1-4A	1-4A	1-4A	1-4A	1-4A	1-4A	1-4A	–	–	–	1-4A	1-4A
P18	ON	2-4A	2-4A	2-4A	2-4A	2-4A	2-4A	2-4A	2-4A	2-4A	–	–	–	2-4A	2-4A
P19	OFF	3-4A	3-4A	3-4A	3-4A	3-4A	3-4A	3-4A	3-4A	3-4A	–	–	–	3-4A	3-4A
P20	S3	4-4A	4-4A	4-4A	4-4A	4-4A	4-4A	4-4A	4-4A	4-4A	–	–	–	4-4A	4-4A
P21	MOVIE	5-4A	5-4A	5-4A	5-4A	5-4A	5-4A	5-4A	5-4A	5-4A	–	–	–	5-4A	5-4A
P22	MUSIC	1-5A	1-5A	1-5A	1-5A	1-5A	1-5A	1-5A	1-5A	1-5A	–	–	–	1-5A	1-5A
P23	L	2-5A	2-5A	2-5A	2-5A	2-5A	2-5A	2-5A	2-5A	2-5A	–	–	–	2-5A	2-5A
P24	C	3-5A	3-5A	3-5A	3-5A	3-5A	3-5A	3-5A	3-5A	3-5A	–	–	–	3-5A	3-5A
P25	R	4-5A	4-5A	4-5A	4-5A	4-5A	4-5A	4-5A	4-5A	4-5A	–	–	–	4-5A	4-5A
P26	LS	5-5A	5-5A	5-5A	5-5A	5-5A	5-5A	5-5A	5-5A	5-5A	–	–	–	5-5A	5-5A
P27	S	1-6A	1-6A	1-6A	1-6A	1-6A	1-6A	1-6A	1-6A	1-6A	–	–	–	1-6A	1-6A
P28	RS	2-6A	2-6A	2-6A	2-6A	2-6A	2-6A	2-6A	2-6A	2-6A	–	–	–	2-6A	2-6A
P29	LFE	3-6A	3-6A	3-6A	3-6A	3-6A	3-6A	3-6A	3-6A	3-6A	–	–	–	3-6A	3-6A
P30	○	4-6A	4-6A	4-6A	4-6A	4-6A	4-6A	4-6A	4-6A	4-6A	–	–	–	4-6A	4-6A
P31	SP ▶	5-6A	5-6A	5-6A	5-6A	5-6A	5-6A	5-6A	5-6A	5-6A	–	–	–	5-6A	5-6A
P32	A	1-7A	1-7A	1-7A	1-7A	1-7A	1-7A	1-7A	1-7A	1-7A	–	–	–	1-7A	1-7A
P33	B	2-7A	2-7A	2-7A	2-7A	2-7A	2-7A	2-7A	2-7A	2-7A	–	–	–	2-7A	2-7A
P34	–	3-7A	3-7A	3-7A	3-7A	3-7A	3-7A	3-7A	3-7A	3-7A	–	–	–	3-7A	3-7A
P35	–	4-7A	4-7A	4-7A	4-7A	4-7A	4-7A	4-7A	4-7A	4-7A	–	–	–	4-7A	4-7A
P36	–	5-7A	5-7A	5-7A	5-7A	5-7A	5-7A	5-7A	5-7A	5-7A	–	–	–	5-7A	5-7A
P37	–	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B	1-1B
P38	–	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B	2-1B
P39	–	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B	3-1B
P40	–	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B	4-1B
P41	–	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B	5-1B
P42	–	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B	1-2B
P43	–	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B	2-2B
P44	–	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B	3-2B
P45	–	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B	4-2B
P46	–	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B	5-2B
P47	–	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B	1-3B
P48	–	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B	2-3B
P49	–	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B	3-3B
P50	–	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B	4-3B
P51	–	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B	5-3B
P52	–	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B	1-4B
P53	–	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B	2-4B
P54	–	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B	3-4B
P55	–	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B	4-4B
P56	–	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B	5-4B
P57	–	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B	1-5B
P58	–	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B	2-5B
P59	–	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B	3-5B
P60	–	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B	4-5B
P61	–	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B	5-5B
P62	–	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B	1-6B
P63	–	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B	2-6B
P64	–	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B	3-6B
P65	–	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B	4-6B
P66	–	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B	5-6B
P67	–	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B	1-7B
P68	–	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B	2-7B
P69	–	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B	3-7B
P70	–	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B	4-7B
P71	–	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B	5-7B

• Anode Timing Chart

	15Gd-15Ga	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3Gb, 3Ga	2G	1G
P1	T18		T17		T16		T9	T8	T7	–	–	–	T3	–	T1
P2	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	–	–	T3	T2	T1
|	|	|	|	|	|	|	|	|	|	|	|	|	|	|
P11	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	–	–	T3	T2	T1
P12	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	–	–	–	T2	T1
|	|	|	|	|	|	|	|	|	|	|	|	|	|	|
P12	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	–	–	–	T2	T1
P33	–	T14	T13	T12	T11	T10	T9	T8	T7	T6	–	–	–	T2	T1
|	|	|	|	|	|	|	|	|	|	|	|	|	|	|
P71	–	T14	T13	T12	T11	T10	T9	T8	T7	T6	–	–	–	T2	T1

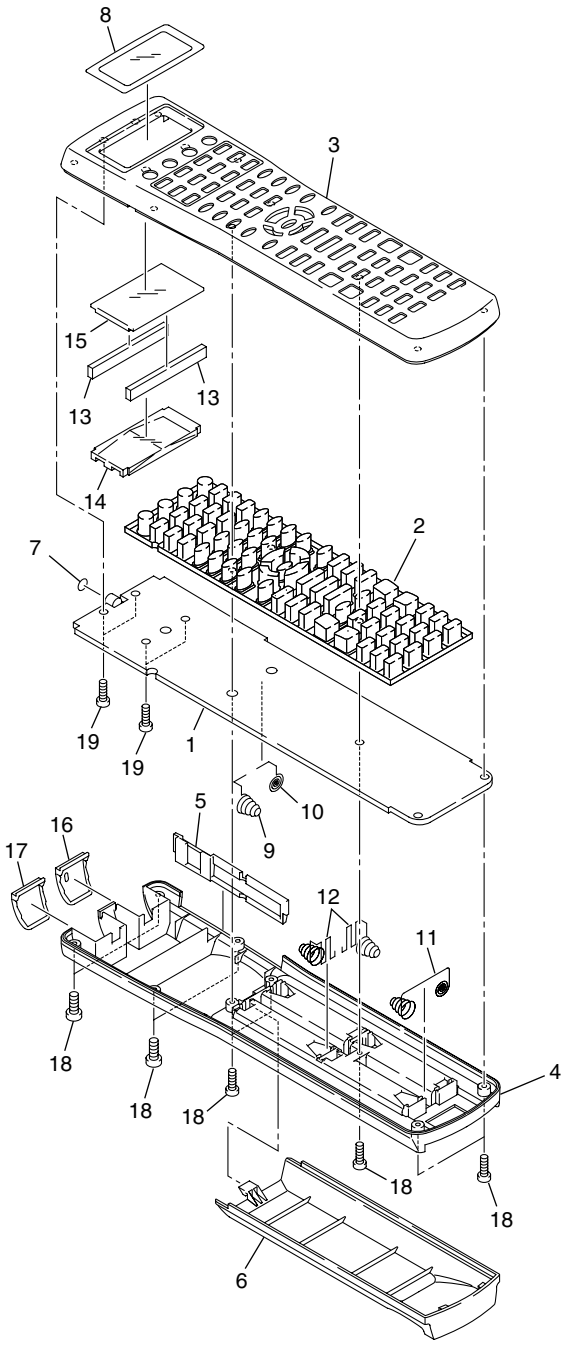
7.3 CLEANING

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

7.4 REMOTE CONTROL UNIT

7.4.1 EXPLODED VIEWS AND PARTS LIST



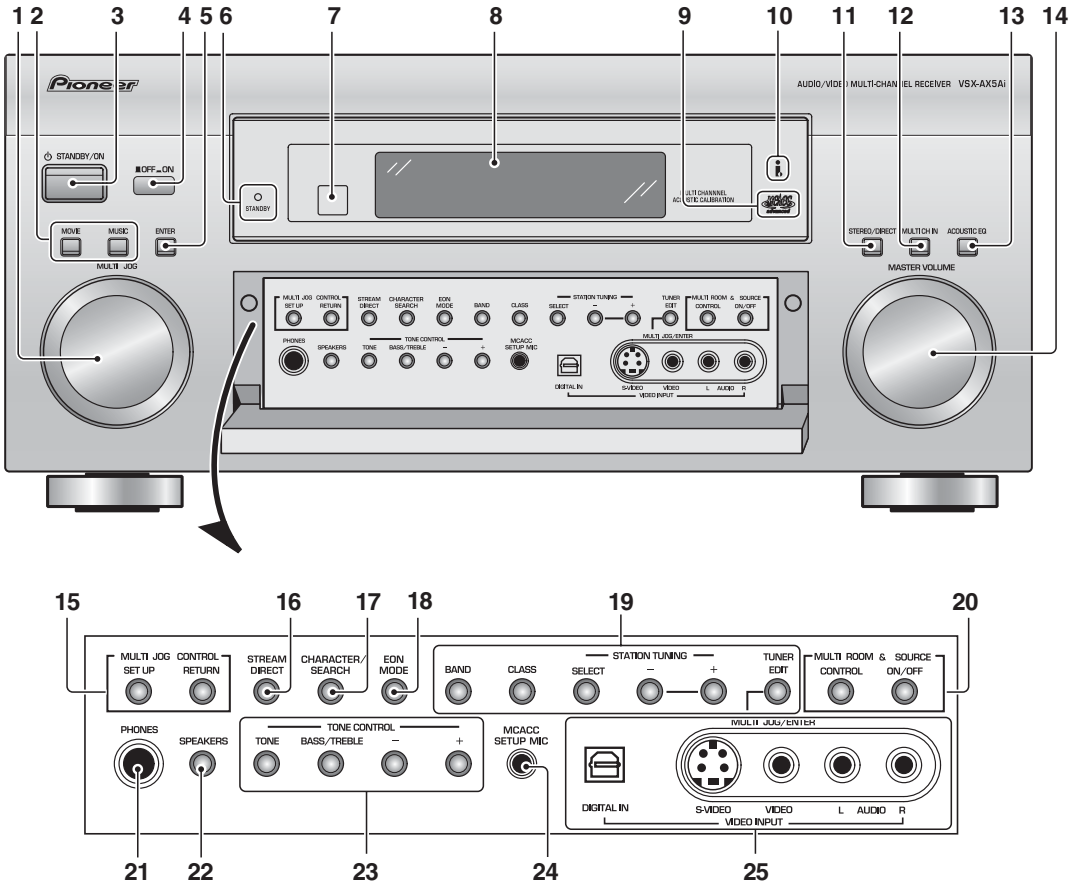
Mark	No.	Description	Part No.
	1	PCB Assy	AZC7301
	2	Rubber Key	AZA7425
	3	Case A	AZN7938
	4	Case B	AZN7939
	5	Frame	AZN7941
	6	Battery Cover	AZN7940
	7	MIC Cap	AZN7942
	8	Name Plate	201RRC-314-01L
	9	Terminal A	411RRC-212-01G
	10	Terminal B	411RRC-213-01G
	11	Battery Terminal	413RRC-143-01R
	12	Spring	413RRC-171-01G

Mark	No.	Description	Part No.
	13	Connector	423RRC-046-01G
	14	Plate	481RRC-018-01G
	15	Shield Plate	801RRC-020-01L
	16	Filter A	811RRC-109-01G
	17	Filter B	811RRC-110-01G
	18	Screw	A-BA2008-225002
	19	Screw	A-BJ2006

8. PANEL FACILITIES

8.1 FRONT PANEL

Front panel



1 MULTI JOGdial
Depending on the operation, you can use this to select an input source or listening mode, as well as for tuner and system settings. It can often be used instead of the remote control ▲/▼ (cursor up/down) buttons.

2 Surround listening mode buttons
Use to select the **MOVIE** and **MUSIC** surround listening modes.

3 ⏻ STANDBY/ON
Press ⏻ **STANDBY/ON** to switch the receiver on or into standby.

4 OFF ON
Switch the receiver on or into standby when this button is in the **ON** position. When in the **OFF** position, the power to the receiveris switched off.

5 ENTER
Use to confirm your selection (with the **MULTI JOG** dial).

6 STANDBYindicator
Lights when the receiver is in standby.

7 Remote sensor
Receives the signals from the remote control.

8 Display

9 Advanced MCACCindicator
Lights when Acoustic Calibration EQ is on (Acoustic Calibration EQ is automatically set to **ALL CH ADJUST** after the Auto Surround Setup has been completed).

10 i.LINK indicator
Lights when an i.LINK-audio-equipped component is selected.

11 STEREO/DIRECT
Switches the receiver into **STEREO** mode if it was in a different listening mode or toggles between **DIRECT** and **STEREO.**

12 MULTI CH IN
Press to select the component connected to the **MULTI CH IN** terminals (for example, a DVD-Audio player).

13 ACOUSTIC EQ
Press to select an acoustic calibration EQ setting.

14 MASTER VOLUMEdial
Adjusts the volume.

15 MULTI JOGCONTROL
Use the **SET UP** button to access the System Setup menu, and **RETURN** to exit the current menu screen.

16 STREAM DIRECT
Press to switch on/off Auto playback.

17 CHARACTER/SEARCH
Use this button to search for RDS program types.

Multi-voltage model:

MIDNIGHT
Press to switch on/off Midnight listening.

18 EON MODE
Use to search for programs that are broadcasting traffic or news information.

Multi-voltage model:

LOUDNESS
Press to switch Loudness on/off.

19 TUNER controls
Use the front panel tuner controls for tuning into stations and recalling station presets.

BAND
Press to select the AM or FM band.

CLASS
Press repeatedly to switch the preset station classes.

SELECT
Switches between the station memory and frequency select mode when using the **– /+** buttons.

– /+

Selects station memories or frequencies when using the tuner.

TUNER EDIT
Press to memorize and name a station for recall with the **MULTI JOG** dial.

20 MULTI ROOM & SOURCE controls
If you've made multi-room connections use these controls to control the sub room from the main room.

CONTROL
Use together with the **MULTI JOG** dial to select the function or use with the **MASTER VOLUME** to select the volume of the sub room.

ON/OFF
Use to switch the multi-room feature on or off.

21 PHONES jack
Use to connect headphones (no sound will be heard through the speakers).

22 SPEAKERS
Depending on the surround back speaker setting, press either to switch the speaker system or simply to switch it off.

23 TONE CONTROL

TONE
Press to switch the tone controls on or off (bypass).

BASS/TREBLE
Use to select whether the bass or treble will be adjusted.

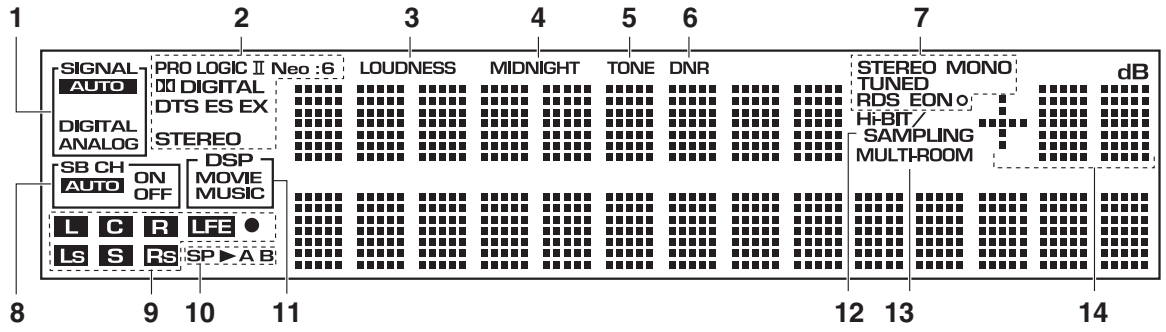
+/–
Use to adjust the frequency setting.

24 MCACC SETUP MIC jack
Use to connect the supplied microphone.

25 VIDEO INPUT jacks
- **DIGITAL IN** – Connect a game console, portable DVD player, video camera (etc.), that has an optical digital connection.
- **S-VIDEO** – Connect a video camera (etc.), that has an S-video out.
- **VIDEO / AUDIO (L/R)** – Connect a video camera, etc. that has standard RCA video/audio outputs.

8.2 DISPLAY

Display



1 SIGNAL indicators
Light to indicate the currently selected input signal. **AUTO** lights when the receiver is set to select the input signal automatically.

2 Digital format indicators
- **PRO LOGIC II** – Lights during Dolby Pro Logic II and Pro Logic IIx processing.
- **Neo:6** – Lights during Neo:6 processing with 2-channel sources.
- **DIGITAL** – Lights when a Dolby Digital signal is detected.
- **DTS** – Lights when a DTS signal is detected.
- **ES** – Lights when a DTS-ES signal is detected.
- **EX** – Lights when a Dolby Digital EX signal is detected.
- **STEREO** – Lights during 2-channel playback.

3 LOUDNESS
Lights when Loudness listening is active.

4 MIDNIGHT
Lights when Midnight listening is active.

5 TONE
Lights when the tone control is switched on.

6 DNR
Lights when digital noise reduction is switched on.

7 Tuner indicators

STEREO
Lights when listening to a stereo FM broadcast in auto/stereo mode.

MONO
Lights when the tuner MPX mode is set to mono.

TUNED
Lights when tuned to a broadcast.

RDS
Lights when an RDS broadcast is received.

EON ●
EON lights when the EON mode is set, and flashes during reception of an EON broadcast. The ● indicator lights when the current station carries the EON service.

8 SB CH
Indicates the surround back channel (or Virtual Surround Back) setting (**AUTO**, **ON** or **OFF**).

9 Program format indicators
These change according to which channels are active in Dolby, DTS, DVD-A and SACD sources.

LS, **S** and **RS** will light at the same time to indicate 6.1 channel sources.
- **L** – Left front channel
- **C** – Center channel
- **R** – Right front channel
- **LS** – Left surround channel
- **S** – Surround channel (mono) or surround back channel
- **RS** – Right surround channel
- **LFE** – Low frequency effects channel
- ● – Lights when an LFE signal is detected

10 Speaker indicators
Lights to indicate the current speaker system, **A** and/or **B**.

11 Listening mode indicators
Shows **MOVIE** or **MUSIC** when a surround listening mode is selected. **DSP** will light with a box around it when one of the advanced (DSP) listening modes is selected.

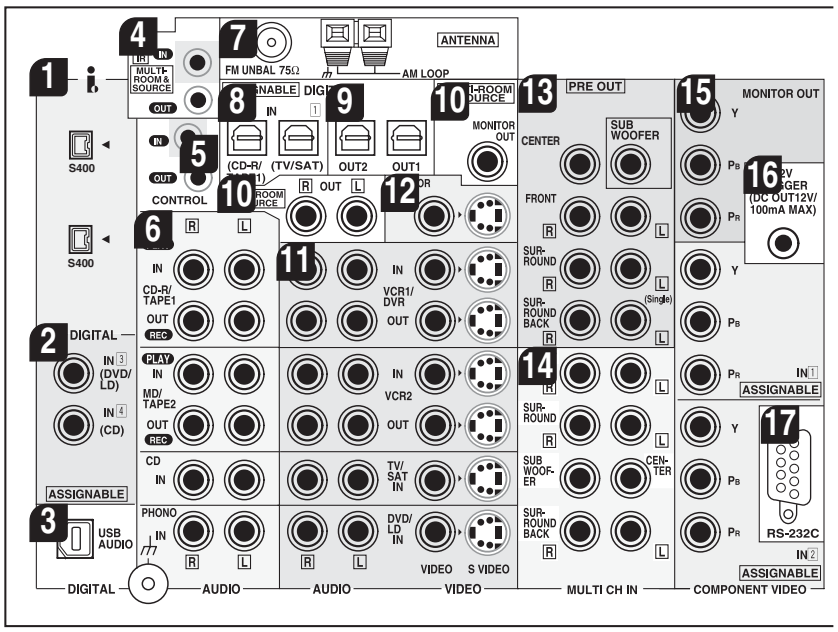
12 Hi-BIT/SAMPLING
Lights when the audio scaler is switched on.

13 MULTI-ROOM
Lights when the multi room feature is active.

14 Volume level indicator

8.3 REAR PANEL

Rear panel



1 i.LINK connectors
Two S400-type i.LINK connectors allow you to connect this receiver to other compatible i.LINK audio devices for high-resolution, multichannel digital audio input/output.

2 Digital audio coaxial inputs
Two coaxial digital audio inputs for connecting digital audio sources to this receiver. All the inputs are freely assignable to input functions for maximum flexibility.

3 USB audio input
The USB audio input allows you to use your PC as a playback source for audio.

4 IR input/output
An IR connection allows you to connect an external remote control sensor, when your component system is in a closed cabinet or shelving unit, for example.

5 Control input/output
Mini-plug terminals for connection to other Pioneer components to enable you to control all your equipment from a single remote sensor.

6 Stereo analog audio source inputs/outputs
Four sets of analog audio jacks for connection to audio sources such as CD players, tape decks and turntables. The **CD-R/TAPE1** and **MD/TAPE2** functions also feature outputs for recording.

- The grounding (⏚) terminal is for use with turntables that require it.

7 Antenna terminals
Connections for AM and FM radio antennas.

8 Digital audio optical inputs
Two optical digital audio inputs for connecting digital audio sources to this receiver. All the inputs are freely assignable to input functions for maximum flexibility.

9 Digital audio outputs
Two optical digital audio outputs for connecting to a CD-R, MD or other digital recorder.

10 Multi-room and source outputs
The analog audio outputs are for connection to a second amplifier in a separate room. The **MULTI-ROOM & SOURCE** composite video output is for connection to a second monitor or TVin a separate room.

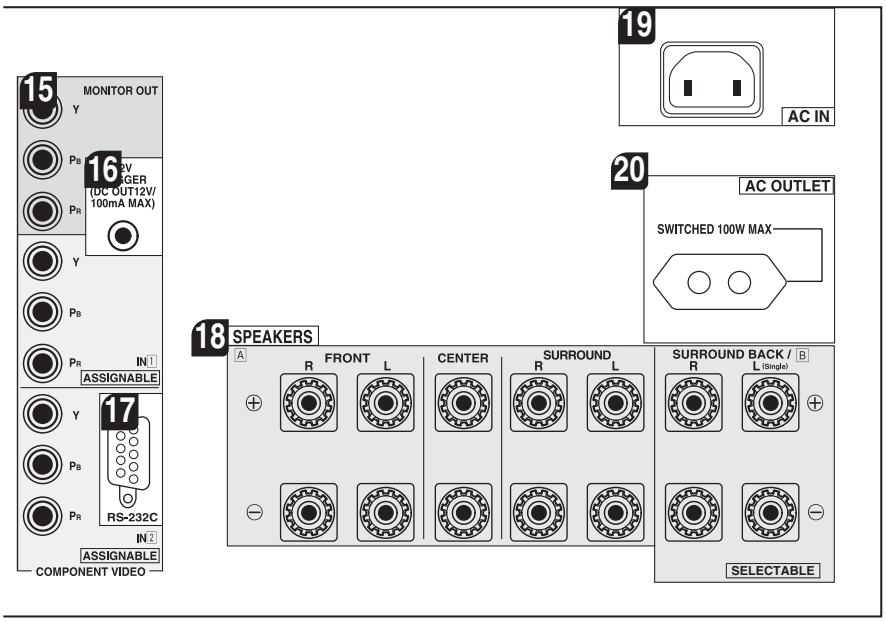
11 Audio/video source inputs
Each of the six source input functions has stereo analog audio jacks, a composite video jack and an S-video jack for basic connections. On top of these, you can assign digital audio and component video jacks to input functions as necessary. As well as audio/video inputs, the two input functions **VCR 1/DVR** and **VCR 2** also have audio/video outputs for recording.

12 Monitor video outputs
Two video outputs consisting of a standard composite video output and an S-video output, for connection to monitors and TVs.

13 Multichannel pre-amplifier outputs
Multichannel pre-amp outputs that you can use to connect separate amplifiers for center, surround, surround back and subwoofer channels.

14 Multichannel analog audio inputs
7.1 channel analog inputs for connection to a component with multichannel analog outputs.

15 Component video inputs/output
The two component video inputs are freely assignable to any of the audio/video input functions. The component video output is for connection to a monitor or TV.



16 12V trigger jack
This terminal outputs DC 12V according to the input functions (100 mA max.).

17 RS-232C connector
This port is provided for connecting a personal computer for graphical output when using Advanced MCACC.

18 Speaker terminals
These are the main speaker terminals for front, center, surround and surround back speakers.

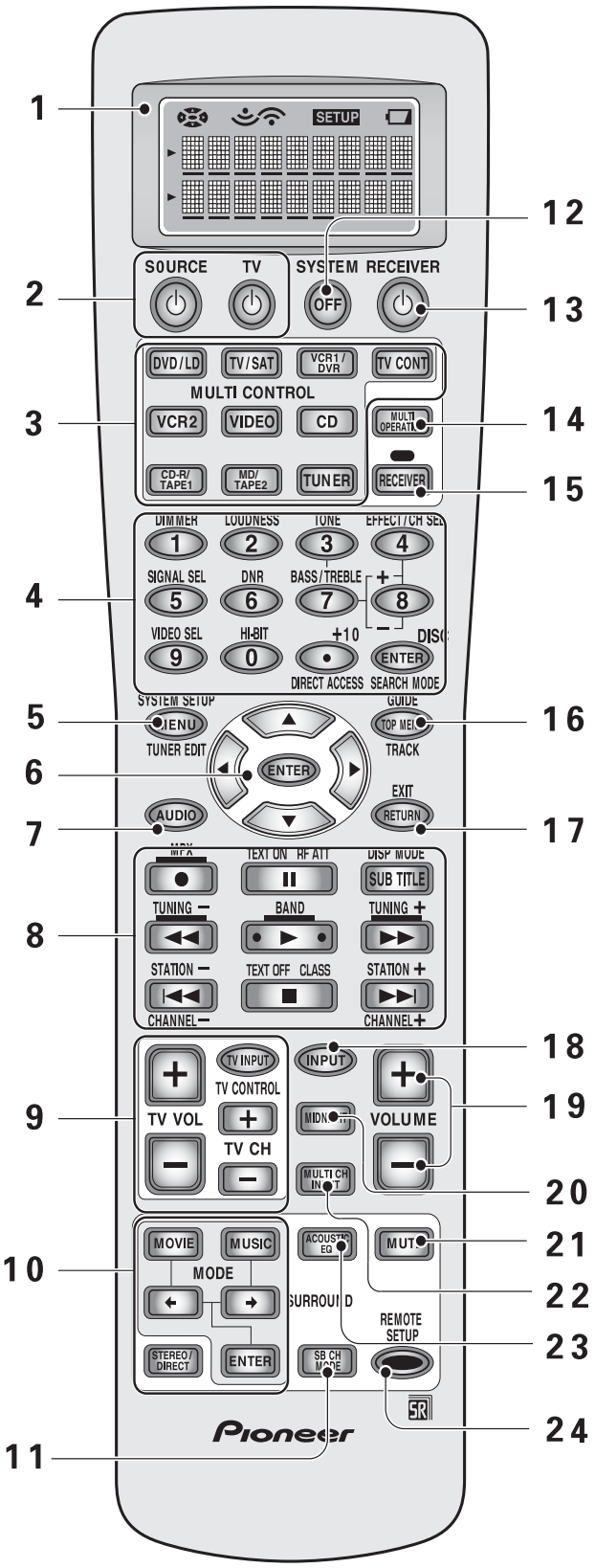
19 AC power inlet
Connect the supplied power cord here.

20 AC power outlet *(Switched 100W max.)*
This 230V AC power outlet can be used to power another component in your setup (up to 100 W). Power to this outlet is switched off when the receiver is in standby.

8.4 REMOTE CONTROL UNIT

This page describes the buttons on the remote control used to operate the receiver.

AXD7364



1 Remote Control Display Screen

2 SOURCE ⏻ button

Use this button to turn on/off other components. You must input the preset code in order to use this function.

TV ⏻ button

This is a dedicated TV button. Use it to turn on/off your TV.

3 MULTI CONTROL buttons

These buttons are the basic controls that switch the mode of the receiver and the remote control, which allows you to control your other components.

TV CONT: Press so that the remote control can operate the TV control commands.

4 Number buttons

These can be used for many purposes depending on the mode of the remote control.

When in receiver mode the buttons operate as below:

DIMMER button

Use to adjust the brightness of the receiver's display.

LOUDNESS button

Switches the LOUDNESS mode on or off.

TONE button

This button switches between TONE on and off, which bypasses the tone circuitry.

BASS/TREBLE buttons

Use to select whether the bass or treble will be adjusted.

(+/–) buttons

Use to adjust the TONE level, effect level, channel level and sound delay as well as make Dolby Pro Logic II MUSIC parameter settings.

EFFECT/CH SEL button

Switches between the different channels so you can add volume individually to each channel with the + and – buttons. Also selects EFFECT mode, Dolby Pro Logic II MUSIC parameters and sound delay settings.
You can then use the + and ñ buttons to make these adjustments.

SIGNAL SEL button

Press repeatedly to select one of the following:

AUTO – If there are analog and digital signals input, the receiver automatically selects the digital signal.

DIGITAL – To select an optical or coaxial digital signal.

ANALOG – To select an analog signal.

DNR (DIGITAL NR) button
Switches the DIGITAL NR on or off.

VIDEO SEL button
Use to toggle between the different video input possibilities.

HI-BIT button
Use this button to switch the AUDIO SCALER on or off.

5 SYSTEM SETUP button
Use for all system setups, including the speaker and sound systems. For more information see "Setting Up for Surround Sound".
For a DVD player use this button to bring up the DVD menu and for a tuner use this button in the same way as the TUNER EDIT button.

6 ▲/▼/◄/►/ENTER buttons
These buttons can be used for a variety of operations in the SYSTEM SETUP menu.
These buttons are used to control the menus for other components when in those modes (DVD, digital TV tuner, satellite tuner, cable tuner, etc.). In TUNER mode, they can select a station and/or a frequency.

7 AUDIO button
Use to switch the audio tracks of a DVD when in DVD mode.

8 Command button for other components
Use these buttons to control other components you selected with the MULTI CONTROL buttons. You must input the preset code in order use this function.

9 TV CONTROL buttons
The following buttons are used to control the TV only and can be used once they are preset to control your TV.
TV INPUT: Press to select the input source for the TV.
TV CH +/– : Use these buttons to change the channel of the TV.
TV VOL +/– : Press to control the volume of the TV.

10 Listening mode buttons
SURROUND buttons (MOVIE, MUSIC, ⬅➡ & ENTER):
MOVIE: Press to put the receiver into MOVIE listening mode.
MUSIC: Press to put the receiver into MUSIC listening mode.
⬅➡: Use to select the MOVIE or MUSIC listening mode.
ENTER: Use this button to enter information concerning the listening modes.
STEREO/DIRECT: Switches the receiver into STEREO mode if it was in a different sound mode or toggles between DIRECT and STEREO mode.

11 SB CH MODE button
Use this button to turn the surround back channels ON/OFF/AUTO or switch the virtual surround back mode between ON/OFF/AUTO.

12 SYSTEM OFF button
This button turns off components in two ways. First, when pressed it will turn off all PIONEER components. Secondly, any component that has programmed into the SYSTEM OFF settings will be turned off.

13 ⏻ RECEIVER (STANDBY/ON) button
Press to turn power of the receiver on or to standby (off).

14 MULTI OPERATION button
Use this button to start the multi operation mode.

15 RECEIVER button
Use this button to switch the remote control into receiver mode in order to get certain receiver functions or do receiver setups.

16 TOP MENU/GUIDE button
Use to find stations or menus on a digital TV tuner. For a DVD player use this button to bring up the DVD menu.

17 RETURN button
When you are in a receiver setup operation this button will go back one step in the SYSTEM SETUP procedure. When you are using your DVD menu screen this button acts the same as the DVD player's "Return" button. When you are using cable tuners, satellite tuners or digital TV tuners this button will either exit you from the menu screen or act like a "Return" button above, depending on the maker of the unit.

18 INPUT button
Press to select an input source. The button will cycle through all the possible sources including USB, PHONO and i.LINK components.

19 VOLUME (+/–) buttons
Use to raise or lower the volume of the receiver.

20 MIDNIGHT button
Switches the MIDNIGHT listening mode on or off.

21 MUTE button
Press to mute or restore the volume.

22 MULTI CH INPUT button
Use this button to select the component you have hooked up to the MULTI CH IN terminals (for example, a DVD-Audio player).

23 ACOUSTIC CAL button
Press to switch on/off and select the type of acoustic calibration EQ.

24 REMOTE SETUP button
Use to customize the remote control functions and the remote control itself.